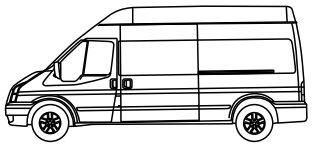
DO NOT DESTROY: THIS MANUAL IS REQUIRED BY LAW. KEEP UNTIL THE VEHICLE IS COMPLETED BY THE FINAL STAGE MANUFACTURER.

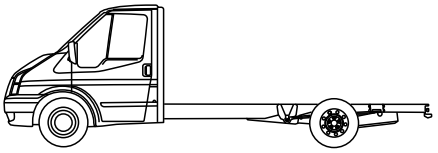
2020
TRANSIT
INCOMPLETE VEHICLE MANUAL

Incomplete Vehicle Types For This Manual

INCOMPLETE TRANSIT VAN



TRANSIT CHASSIS CAB



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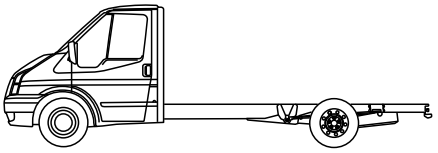

July, 2019
▽ LK41-19A268-AC

U.S. & CANADIAN MOTOR VEHICLE SAFETY STANDARDS
(Application By Vehicle Type)

Standard Number	Title of Standard	Vehicle Type				Equipment (1)
		Bus (Not School Bus)	School Bus	Truck (Not Walk-In Van)	MPV	
101	Controls and Displays	X	X	X	X	
102	Transmission Shift Lever Sequence, Starter Interlock and Transmission Braking Effect	X	X	X	X	
103	Windshield Defrosting and Defogging Systems	X	X	X	X	
104	Windshield Wiping and Washing Systems	X	X	X	X	
105	Hydraulic and Electric Brake Systems	X	X	X	X	
106	Brake Hoses	X	X	X	X	X
108	Lamps, Reflective Devices and Associated Equipment	X	X	X	X	X
110	Tire Selection and Rims and Motor Home / Recreation Vehicle Trailer Load Carrying Capacity Information for Motor Vehicles with a GVWR of 4,536 Kilograms (10,000 Pounds) or Less	X(2)	X(2)	X(2)	X(2)	X(2)
111	Rear Visibility	X	X	X	X	
113	Hood Latch System	X	X	X	X	
114	Theft Protection and Rollaway Prevention			X(2)	X(2)	
115	Vehicle Identification Number (Canada only)	X	X	X	X	
116	Motor Vehicle Brake Fluids	X	X	X	X	X
118	Power-Operated Window, Partition, and Roof Panel Systems			X(2)	X(2)	
119 (7)	New Pneumatic Tires for Motor Vehicles with a GVWR of More Than 4,536 Kilograms (10,000 pounds) and Motorcycles					X(8)
120	Tire Selection and Rims and Motor Home / Recreation Vehicle Trailer Load Carrying Capacity Information for Motor Vehicles with a GVWR of More Than 4,356 Kilograms (10,000 Pounds)	X(8)	X(8)	X(8)	X(8)	X(8)
124	Accelerator Control Systems	X	X	X	X	
126	Electronic Stability Control Systems	X(2)	X(2)	X(2)	X(2)	X(2)
131	School Bus Pedestrian Safety Devices (except Multifunction School Activity Bus)		X			
138	Tire Pressure Monitoring Systems	X(2)	X(2)	X(2)	X(2)	X(2)
139 (7)	New Pneumatic Radial Tires for Light Vehicles					X(2)
201	Occupant Protection in Interior Impact	X(2)(6)	X(2)(6)	X(2)	X(2)	
202a	Head Restraints	X(2)	X(2)	X(2)	X(2)	
203	Impact Protection for the Driver from the Steering Control System	X(2)	X(2)	X(2)	X(2)	
204	Steering Control Rearward Displacement	X(3)	X(3)	X(3)	X(3)	
205	Glazing Materials	X	X	X	X	X
206	Door Locks and Door Retention Components			X	X	X
207	Seating Systems	X	X	X	X	
208	Occupant Crash Protection	X(4)	X(4)	X(4)	X(4)	X
209	Seat Belt Assemblies	X	X	X	X	X
210	Seat Belt Assembly Anchorages	X	X	X	X	X
210.1	User-Ready Tether Anchorages for Restraint Systems and Booster Seats (Canada only)	X(9)	X(9)			X
210.2	Lower Universal Anchorage Systems for Restraint Systems and Booster Seats (Canada only)	X(9)	X(9)			X
212	Windshield Mounting	X(2)	X(2)	X(2)	X(2)	
213	Child Restraint Systems (U.S. only)	X	X	X	X	X
213.4	Built-In Restraint Systems and Built-In Booster Seats (Canada only)	X	X	X	X	X
214	Side Impact Protection	X(2)	X(2)	X(2)	X(2)	
216a	Roof Crush Resistance	X(2)		X(2)	X(2)	
217	Bus Emergency Exits and Window Retention and Release	X	X			
219	Windshield Zone Intrusion	X(2)	X(2)	X(2)	X(2)	
220	School Bus Rollover Protection		X			
221	School Bus Body Joint Strength		X			X
222	School Bus Passenger Seating and Crash Protection		X			X
225	Child Restraint Anchorage Systems (U.S. only)	X(5)	X(5)	X(5)	X(5)	X
226	Ejection Mitigation	X(2)	X(2)	X(2)	X(2)	X

(Continued next page)

U.S. & CANADIAN MOTOR VEHICLE SAFETY STANDARDS
(Application By Vehicle Type) *(Continued)*

Standard Number	Title of Standard	Vehicle Type				Equipment (1)
		Bus (Not School Bus)	School Bus	Truck (Not Walk-In Van)	MPV	
301	Fuel System Integrity	X(2)	X(2)(8)	X(2)	X(2)	
301.1	LPG Fuel System Integrity (Canada only)	X	X	X	X	
301.2	CNG Fuel System Integrity (Canada only)	X	X	X	X	
302	Flammability of Interior Materials	X	X	X	X	
303	Fuel System Integrity of Compressed Natural Gas Vehicles (U.S. only)	X(2)	X(2)	X(2)	X(2)	
304	Compressed Natural Gas Fuel Container Integrity (U.S. only)	X	X	X	X	
305	Electric-Powered Vehicles: Electrolyte Spillage and Electrical Shock Protection	X	X	X	X	X
403	Platform Lift Systems for Motor Vehicles					X
404	Platform Lift Installations in Motor Vehicles	X	X	X	X	
PART 393.67	Parts and Accessories Necessary for Safe Operation – Liquid Fuel Tanks					X
PART 565 / 565.13	Vehicle Identification Number (VIN) Requirements (U.S. only)	X	X	X	X	
PART 567	Certification (Label Content & Location)	X	X	X	X	
1106	Noise Emissions (Canada only)	X	X	X	X	

(1) This column identifies Standards that have equipment/component requirements.

(2) Applicable to vehicles with a gross vehicle weight rating (GVWR) of 4536 kg [10,000 lb] or less.

(3) Applicable to vehicles with a GVWR of 4536 kg [10,000 lb] or less and an unloaded vehicle weight of 2495 kg [5500 lb] or less.

(4) Injury criteria are applicable to vehicles with a GVWR of 3856 kg [8500 lb] or less and an unloaded vehicle weight (UVW) of 2495 kg [5500 lb] or less except, in the U.S., walk-in van-type trucks and vehicles designed to be sold exclusively to the U.S. Postal Service and, in Canada, vehicles manufactured for operation by persons with disabilities.

(5) Applicable to vehicles with GVWR of 3856 kg [8500 lb] or less, and to buses, including school bus, with a GVWR of 4536 kg [10,000 lb] or less.

(6) The requirements of section S6 of Standard Number 201 (United States) do not apply to buses with a GVWR greater than 3860 kg [8510 lb] and walk-in van type trucks.

(7) Canadian 119 & 139 requirements are found in the Motor Vehicle Tire Safety Standards.

(8) Applicable to vehicles with a GVWR greater than 4536 kg [10,000 lb] (U.S. only).

(9) Applicable to multi-purpose passenger vehicles and trucks with a GVWR of 3856 kg [8500 lb] or less and an unloaded vehicle weight of 2495 kg [5500 lb] or less, to buses with a GVWR of 4536 kg [10,000 lb] or less, and to school buses.

INTRODUCTION

Information in this manual is furnished pursuant to United States and Canadian safety regulations or, in some cases where the information is not required by regulation, is furnished for the convenience of intermediate or final stage vehicle manufacturers. Incomplete vehicles manufactured for sale or importation into the U.S., are specially equipped for the United States. The descriptions and statements contained in the manual relate only to motor vehicle safety standards issued under the National Traffic and Motor Vehicle Safety Act of 1966 as amended.

An incomplete vehicle manufactured for sale or importation into Canada is specially equipped for Canada. This vehicle conforms to the applicable Canadian Motor Vehicle Safety Standards (CMVSS) on the date of manufacture printed on the cover of this manual. Requirements unique to vehicles for use in Canada are identified in the “Statements of Conformity” and the “Canadian Vehicles” sections of this manual.

The “Emission Certification Information” section of this manual contains information regarding conformity to exhaust emission regulations of the United States, Canada, and the State of California and fuel economy regulations of the United States.

This manual should not be relied upon with respect to compliance with any regulation of the Federal Highway Administration or regulations issued pursuant to the Occupational Safety and Health Act (OSHA) or any other Federal, state, provincial, or local regulations governing the performance or construction of motor vehicles (except for those requirements shown in the “Emissions Certification Information” section of this manual under the headings “Unleaded Gasoline Label,” “Warranty and Maintenance,” and “Emission Control Information Label”). It is the responsibility of the final stage manufacturer to determine applicability and comply with any Federal, state, or local requirements not detailed in this manual.

IMPORTANT:

UNITED STATES VEHICLES

Ford Motor Company has endeavored, whenever possible, to state the specific conditions under which an incomplete vehicle may be completed to conform to each applicable Federal Motor Vehicle Safety Standard. These specific statements are intended to aid subsequent stage manufacturers in avoiding instances of inadvertent noncompliance to particular standards.

Note that the final responsibility for the compliance of the completed vehicle rests with the final stage manufacturer who is required by law to certify, as prescribed by Title 49, Code of Federal Regulations, Part 567.5, that the completed vehicle conforms to all applicable Federal Motor Vehicle Safety Standards and all applicable federal, state and California emission/noise standards.

Ford Motor Company does not make any representation as to the appropriateness of modifications for any particular application other than expressly stated herein. Intermediate and final stage manufacturers must exercise proper engineering judgment to determine if a modification is appropriate for their specific application.

IMPORTANT:

UNITED STATES AND CANADIAN VEHICLES

Alterations to an incomplete vehicle by someone other than Ford Motor Company, or damage in transit, may affect compliance statements that are furnished in this manual, or representations that are printed on the label that may be affixed to a vehicle.

IMPORTANT:

GULF COOPERATION COUNCIL (GCC) VEHICLES

For GCC vehicles, the additional standards information provided in the Supplement Section of this manual must be considered in addition to the information contained within the Incomplete Vehicle Manual when determining ultimate compliance of the completed vehicle in GCC markets.

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DEFINITIONS

The following definitions are from Title 49, Code of Federal Regulations (49CFR), Parts 567.3, 568.3 and 571.3 where noted. Canadian definitions are from Canadian Motor Vehicle Safety Regulations (CMVSR), Section 2(1), and are in italics. Ford Motor Company definitions are for the purpose of this manual only. Some terms are followed by an abbreviation that is used throughout this manual.

Ambulance – is a vehicle for emergency medical care which provides: A driver's compartment; a patient compartment to accommodate an Emergency Medical Technician (EMT), Paramedic, and two litter patients (one patient on the primary cot and secondary patient on folding litter located on the squad bench) so positioned that the primary patient can be given intensive life-support during transit; equipment and supplies for emergency care at the scene as well as during transport; two-way radio communication; and, when necessary, equipment for light rescue/extrication procedures. The Ambulance shall be designed and constructed to afford safety, comfort, and avoid aggravation of the patient's injury or illness. (From Federal Specification KKK-A-1822-F). Ford Motor Company also includes within its definition of ambulance any vehicle that is used for transporting life-support equipment, for rescue operations, or for non-emergency patient transfer if the engine of the vehicle is equipped with a "throttle kicker" device, which enables an operator to increase engine speed over normal idle speed when the vehicle is not moving. (Ford Motor Company)

B-Pillar – is the vehicle body structure located directly rearward of each front door. This structure will include the outer panel, all inner panels or reinforcements which support the door opening, the door latching system, and/or the roof structure. (Ford Motor Company)

Basic (Stripped) Chassis – an incomplete vehicle, without occupant compartment, that requires the addition of an occupant compartment and cargo-carrying, work performing, or load-bearing components to perform its intended function. (Ford Motor Company)

Bus – a motor vehicle with motive power, except a trailer, designed for carrying more than 10 persons. (49CFR571.3)

Bus *(Canada) – a vehicle having a designated seating capacity of more than 10, but does not include a trailer or a vehicle imported temporarily for special purposes. (autobus)*

Chassis Cab – an incomplete vehicle, with completed occupant compartment, that requires only the addition of cargo-carrying, work performing, or load-bearing components to perform its intended functions. (49CFR567.3)

Completed Vehicle – a vehicle that requires no further manufacturing operations to perform its intended function. (49CFR567.3)

Critical Control Item – is a component or procedure which may affect compliance with a Federal regulation or, which could directly affect the safe operation of the vehicle. The identifying symbol is an inverted delta (▽). (Ford Motor Company)

Cutaway Chassis – an incomplete vehicle that has the back of the cab cut out for the intended installation of a structure that permits access from the driver's area to the back of the completed vehicle. (Ford Motor Company)

Cutaway Chassis *(Canada) – an incomplete vehicle that has the back of the cab cut out for the intended installation of a structure that permits access from the driver's area to the back of the vehicle. (châssis tronqué)*

Designated Seating Position – means a seat location that has a seating surface width, as described in §571.10(c) of this part, of at least 330 mm (13 inches). The number of designated seating positions at a seat location is determined according to the procedure set forth in §571.10(b) of this part. However, for trucks and multipurpose passenger vehicles with a gross vehicle weight rating greater than 10,000 lbs, police vehicles as defined in S7 of FMVSS 208, firefighting vehicles, ambulances, and motor homes, a seating location that is labeled in accordance with S4.4 of FMVSS 207 will not be considered a designated seating position. For the sole purpose of determining the classification of any vehicle sold or introduced into interstate commerce for purposes that include carrying students to and from school or related events, any location in such a vehicle intended for securement of an occupied wheelchair during vehicle operation is regarded as four designated seating positions. (49CFR571.3)

Designated Seating Position *(Canada) – means a location in a vehicle that is likely to be used as a seating position and that has a seating surface width of at least 330 mm; (place assise désignée)*

Final-Stage Manufacturer – a person who [company that (CMVSR)] performs such manufacturing operations on an incomplete vehicle that it becomes a completed vehicle. (49CFR567.3)

Gross Axle Weight Rating (GAWR) – the value specified by the vehicle manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces. (49CFR571.3)

Gross Combination Weight Rating (GCWR) – the value specified by the manufacturer as the loaded weight of a combination vehicle. (49CFR571.3)

Gross Vehicle Weight Rating (GVWR) – the value specified by the manufacturer as the loaded weight of a single vehicle. (49CFR571.3)

H-Point – the mechanically hinged hip point of a manikin which simulates the actual pivot center of the human torso and thigh, described in SAE Recommended Practice J826, "Manikins For Use in Defining Vehicle Seating Accommodations," November 1962. (49CFR571.3)

H-point *(Canada) – the mechanically hinged hip point of a manikin that simulates the actual pivot centre of the human torso and thigh, described in SAE Standard J826 APR80, Devices for Use in Defining and Measuring Vehicle Seating Accommodation. (point H)*

Incomplete Vehicle – an assemblage consisting, at a minimum, of chassis (including the frame) structure, power train, steering system, suspension system, and braking system, in the state that those systems are to be part of the completed vehicle, but requires further manufacturing operations to become a completed vehicle. (49CFR567.3)

Incomplete Vehicle *(Canada) – a vehicle (a) other than a vehicle imported temporarily for special purposes, that is capable of being driven and that consists, at a minimum, of a chassis structure, power train, steering system, suspension system and braking system in the state in which those systems are to be part of the completed vehicle, but*

(Continued next page)

(Continued)

requires further manufacturing operations to become a completed vehicle or (b) that is an incomplete trailer. (véhicule incomplet)

Incomplete Vehicle Manufacturer – a person [company that (CMVSR)] who manufactures an incomplete vehicle by assembling components none of which, taken separately, constitute an incomplete vehicle. (49CFR567.3)

Intermediate Manufacturer – a person [company (CMVSR)], other than the incomplete vehicle manufacturer or the final stage manufacturer, who [that (CMVSR)] performs manufacturing operations on a vehicle manufactured in two or more stages. (49CFR567.3)

Motor Home – a multi-purpose vehicle with motive power that is designed to provide temporary residential accommodations, as evidenced by the presence of at least four of the following facilities: cooking; refrigeration or ice box; self-contained toilet; heating and/or air conditioning [system that can function independently of the vehicle engine (CMVSR)]; a potable water supply system including a faucet and a sink; and a separate 110-125 volt electrical power supply and/or an LP gas supply. (49CFR571.3)

Multifunction School Activity Bus (MFSAB) – a school bus whose purposes do not include transporting students to and from home or school bus stops. (49CFR571.3)

Multipurpose Passenger Vehicle (MPV) – a motor vehicle with motive power, except a low-speed vehicle or trailer, designed to carry 10 persons or less which is constructed either on a truck chassis or with special features for occasional off-road operation. (49CFR571.3)

Multipurpose Passenger Vehicle (MPV) *(Canada) – a vehicle having a designated seating capacity of 10 or less that is constructed either on a truck-chassis or with special features for occasional off-road operation, but does not include an air cushion vehicle, an all-terrain vehicle, a golf cart, a low-speed vehicle, a passenger car, a three-wheeled vehicle, a truck or a vehicle imported temporarily for special purposes. (véhicule de tourisme à usages multiples)*

School Bus – a bus that is sold, or introduced in interstate commerce, for purposes that include carrying students to and from school or related events, but does not include a bus designed and sold for operation as a common carrier in urban transportation. (49CFR571.3)

School Bus *(Canada) – a bus designed or equipped primarily to carry students to and from school. (autobus scolaire)*

Seating Reference Point – the unique design H-point, as defined in SAE J1100 (June 1984), which:

(a) establishes the rearmost normal design driving or riding position of each designated seating position in a vehicle,

(b) has X, Y, and Z coordinates established relative to the designed vehicle structure,

(c) simulates the position of the pivot center of the human torso and thigh, and

(d) is the reference point employed to position the two-dimensional drafting template described in SAE J826 (May 1987).

(abbreviated by Ford Motor Company)

Seating Reference Point *(Canada) – the unique Design H-point, as defined in section 2.2.11.1 of SAE Recommended Practice J1100 (June 1993), that:*

(a) establishes the rearmost normal design driving or riding position of each designated seating position, taking into account all modes of adjustment – horizontal, vertical and tilt – in a vehicle,

(b) has X, Y and Z coordinates, as defined in section 2.2.3 of SAE Recommended Practice J1100 (June 1993), established relative to the designed vehicle structure,

(c) simulates the position of the pivot centre of the human torso and thigh, and

(d) is the reference point employed to position the H-point template with the 95th percentile leg, as described in section 3.1 of SAE Standard J826 (June 1992), or, if that drafting template cannot be positioned, the reference point when the seat is in its rearmost adjustment position. (point de référence de position assise)

Second Unit Body (SUB) – consists of the body structure and/or all the cargo carrying, work performing, and/or load bearing components and/or equipment installed by a subsequent stage manufacturer on an incomplete vehicle, such that the incomplete vehicle becomes a completed vehicle. (Ford Motor Company)

Subsequent Stage Manufacturer – a term which means either intermediate or final stage manufacturers or both. (Ford Motor Company)

Trimmed Seat – a complete functional seat assembly including the seat pedestal, seat track, seat base frame, seat back, recliner mechanism, seat padding, all attaching hardware, and the final trim material (i.e., cloth, leather, or vinyl). (Ford Motor Company)

Truck – a motor vehicle with motive power, except a trailer, designed primarily for the transportation of property or special purpose equipment. (49CFR571.3)

Truck *(Canada) – a vehicle designed primarily for the transportation of property or special-purpose equipment but does not include a competition vehicle, a crawler-mounted vehicle, a trailer, a work vehicle, a vehicle imported temporarily for special purposes or a vehicle designed for operation exclusively off-road. (camion)*

Unloaded Vehicle Weight (UVW) – the weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle, but without cargo, occupants, or accessories that are ordinarily removed from the vehicle when it is not in use. (49CFR571.3)

Unloaded Vehicle Weight *(Canada) – the weight of a vehicle equipped with the containers for the fluids necessary for the operation of the vehicle filled to their maximum capacity, but without cargo or occupants. (poids du véhicule sans charge)*

Untrimmed Seat – the structure including the seat pedestal, seat track, seat base frame, seat back, recliner mechanism, seat padding, and all attaching hardware required for a functional seat assembly without the final trim material (e.g., cloth, leather, or vinyl) and trim material attaching components. (Ford Motor Company)

Walk-In Van – a special cargo/mail delivery vehicle that has only one designated seating position. That designated seating position must be forward facing and for use only by the driver. The vehicle usually has a thin and light sliding (or folding) side door for easy operation and a high roof clearance that a person of medium stature can enter the passenger compartment area in an up-right position. (49CFR571.214)

Walk-In Van *(Canada) – a van type of truck in which a person having a height of 1700 mm can enter the occupant compartment in an upright position by a front door. (fourgon à accès en position debout)*

GENERAL INFORMATION

Information in this section is provided pursuant to Title 49, Code of Federal Regulations, Part 568 – "Vehicles Manufactured in Two or More Stages", and Section 6 of the Canadian Motor Vehicle Safety Regulations (CMVSR) – "Vehicles Manufactured in Stages." Part 568 specifies that final stage manufacturers must complete vehicles in compliance with all applicable Federal Motor Vehicle Safety Standards and affix a label to each incomplete vehicle that is completed in accordance with 49CFR567.5. Section 6.6 of the CMVSR provides labeling requirements for vehicles that are to be sold in Canada.

DIRECTIONS

STATEMENTS OF CONFORMITY

The "Statements of Conformity" section of this manual lists the Federal Motor Vehicle Safety Standards in effect on the date of manufacture of this incomplete vehicle that are applicable to the type(s) of completed vehicles into which this incomplete vehicle may be manufactured. This date is shown on the label affixed to the cover of this manual. These statements, in most cases, apply to specific types of incomplete or completed vehicles and identify GVWR and UVW weight ranges.

The incomplete vehicle type is identified by the 5th, 6th, and 7th digits of the Vehicle Identification Number (VIN). The completed vehicle types to which this incomplete vehicle may appropriately be completed is printed on the label, under the heading "May Be Completed As," that is affixed to the cover of this document. The Completed Vehicle Types chart on a following page identifies how various incomplete vehicles with an optional prep package or trim code may be completed.

Each statement of conformity is identified by a safety standard number located at the left margin. Because there may be multiple statements of conformity for each safety standard, use care to select the appropriate statement. Unique CMVSS requirements will be identified at the conclusion of the representations for a particular safety standard.

Compliance statements provided in this manual are of the three following types (49CFR568.4):

Type I • A statement that the vehicle, when completed, will conform to the standard if no alterations are made in identified components of the incomplete vehicle.

Type II • A statement of specific conditions of final manufacture under which the incomplete vehicle manufacturer specifies that the completed vehicle will conform to the standard.

Type III • A statement that conformity with the standard cannot be determined based upon the components supplied on the incomplete vehicle, and that the incomplete vehicle manufacturer makes no representation as to conformity with the standard.

IMPORTANT:

To rely on the compliance representations in this manual, the incomplete vehicles must be completed as one of the completed vehicle types designated on the label affixed to the cover of this manual, and must not exceed the specified GVWR, GAWRs, or the Unloaded Vehicle Weight limits when specified in this manual.

This vehicle was certified with a GVWR over 3856 kg [8500 lb]. If the GVWR is modified to less than 3856 kg [8500 lb], additional Federal and/or Canadian Motor Vehicle Safety Standards (F/CMVSS) may apply.

VEHICLE SPECIAL ORDER (VSO) VEHICLES

VSO vehicles can be identified by a six digit number with the letters VSO below the digits in the lower right area of the Incomplete Vehicle Information Label which is affixed to the driver-door lock pillar. See the sample labels on the following page.

The Statements of Conformity section of this manual includes compliance representations for certain VSO vehicles – these vehicles are identified in the Completed Vehicle Types chart. Other VSO vehicles may require additional Statements of Conformity, which would be included in a Supplement Section of this manual.

FORD BODY BUILDER ASSISTANCE

Throughout this manual you will find references to information found in the *Ford Body Builders Layout Book*. Additional design recommendations and specifications are also provided to assist subsequent stage manufacturers in completing incomplete vehicles. The *Ford Body Builders Layout Book* may be accessed via the web at https://fordbbas.com under "Publications".

The Ford Body Builder Advisory Service may be consulted regarding information contained in this manual via the following methods:

- Call (877) 840-4338
- E-mail via the web at https://fordbbas.com under "Contact Us".

INCOMPLETE VEHICLE MANUAL COVER

The cover of this manual depicts the incomplete vehicle configurations for which compliance representations are contained in this manual. Also, a label is affixed to the cover which includes the Vehicle Identification Number (VIN) for the specific vehicle to which this manual belongs. The label identifies the following information which pertains only to the vehicle with the corresponding VIN:

- GVWR
- Front and rear GAWRs
- Tire and wheel size
- Cold tire inflation pressure (kPa/PSI)
- Completed vehicle type(s) into which the incomplete vehicle may be manufactured
- Optional prep package when the vehicle is so equipped

INCOMPLETE VEHICLE INFORMATION LABEL

All Transit incomplete vehicles manufactured by Ford Motor Company will have an Incomplete Vehicle Information Label affixed to the driver-door lock pillar. Samples of typical labels are shown below.

The 5th, 6th, and 7th positions of the Vehicle Identification Number (VIN) will identify the incomplete vehicle type. These three positions are used in the Completed Vehicle Types chart.

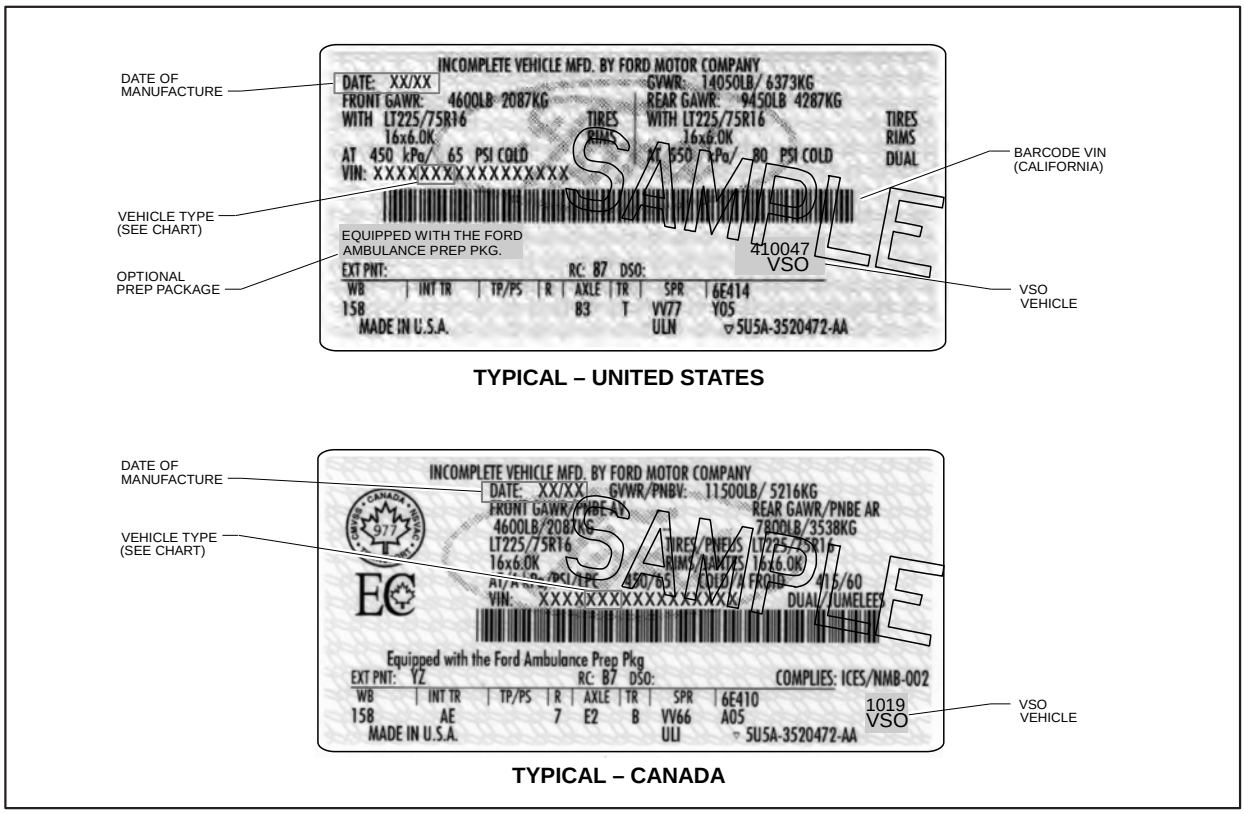
The California Air Resources Board (CARB) requires a Vehicle Identification Number (VIN) Label having a non-contact barcode reading wand capability. The barcode located directly below the VIN on the Incomplete Vehicle Information Label, when provided, will comply with this regulation.

The Canadian Motor Vehicle Safety Act and Regulations require installation of an Incomplete Vehicle Information Label with the National Safety mark on it on vehicles manufactured for sale in Canada. A sample of a typical label is shown below.

OPTIONAL PREP PACKAGES

Incomplete vehicles produced by Ford Motor Company, in some instances, are equipped with an optional prep package. Transit optional prep packages include the Ambulance Prep, School Bus Prep, Multifunction School Activity Bus (MFSAB) Prep, Motorhome Prep, Shuttle Bus Prep, Recreational Van Prep and Builders Prep. The Completed Vehicle Types chart on the following page will identify incomplete vehicles and the optional prep packages or trim codes that may be required by Ford Motor Company if final stage manufacturers wish to rely on the Statements of Conformity or, in some cases, preserve the Ford Motor Company new vehicle warranty.

If an incomplete vehicle is equipped with an optional prep package, both the Incomplete Vehicle Information Label affixed to the vehicle and the label on the front of this manual will identify the prep package.



INCOMPLETE VEHICLE INFORMATION LABELS

COMPLETED VEHICLE TYPES

5TH, 6TH, 7TH VIN DIGIT	INCOMPLETE VEHICLES	COMPLETED VEHICLES				
		TRUCK	MPV (NOT-AMBULANCE)	MPV (AMBULANCE)	BUS (NOT-SCHOOL BUS)	SCHOOL BUS
Transit Series						
K1C, K1Y, K2C, K2Y	Incomplete Transit 150 Passenger Van (SRW)*	X	1,5,8			
E1C, E1Y, E2C, E2Y	Incomplete Transit 150 Cargo Van (SRW)*	X		2		
E1D, E1Z, E2D, E9Z	Incomplete Transit 150 Crew Van (SRW)*	X	X			
R1C, R1X, R1Y, R2C, R2X, R2Y, R3U, R3X	Incomplete Transit 250 Cargo Van (SRW)*	X		2		
R1D, R1Z, R2D, R2Z, R1V, R2V	Incomplete Transit 250 Crew Van (SRW)*	X	X			
R5Z, R7Z	Transit 250 Chassis Cab (SRW)*	X				
R5P, R7P	Transit 250 Cutaway (SRW)*	X	3	2	4	6,7
W4X, W4Z, X2C, X2X, X2Y, X9C, X9X, X9Y	Incomplete Transit 350 Passenger Van (SRW)*	X	1,5,8		8	
W1X, W1Y, W2C, W2X, W2Y, W3U, W3X, W9C	Incomplete Transit 350 Cargo Van (SRW)*	X		2		
W1D, W1V, W1Z, W2D, W2V, W2Z	Incomplete Transit 350 Crew Van (SRW)*	X	X			
W5Z, W7Z	Transit 350 Chassis Cab (SRW)*	X				
W5P, W7P	Transit 350 Cutaway (SRW)*	X	3	2	4	6,7
U4X, U5X	Incomplete Transit 350 HD Passenger Van (DRW)**	X	1,5,8		8	
F4U, F4X, S4U, S4X	Incomplete Transit 350 HD Cargo Van (DRW)**	X		2		
F4V, F4W, S4V, S4W	Incomplete Transit 350 HD Crew Van (DRW)**	X	X			
F6Z, F8Z, S6Z, S8Z, U6Z, U8Z	Transit 350 HD Chassis Cab (DRW)**	X				
F6P, F8P, S6P, S8P, U6P, U8P	Transit 350 HD Cutaway (DRW)**	X	3	2	4	6,7

IMPORTANT:

Ford Motor Company makes no representation that the completed vehicle types listed above are the only vehicle types appropriate for the incomplete vehicles listed. However, if a unit is completed as a vehicle type other than as listed above, the Statements of Conformity may not be applicable.

(1) Builders Prep Package
(2) Ambulance Prep Package
(3) Motorhome Prep Package
(4) Shuttle Bus Prep Package
(5) Recreational Prep Package
(6) School Bus Prep Package
(7) Multifunction School Activity Bus (MFSAB) Prep Package
(8) Rear Seat Delete Packages

** Single Rear Wheels*
*** Dual Rear Wheels*

STATEMENTS OF CONFORMITY

The following Statements of Conformity apply to vehicles that are produced for sale or importation into the United States or Canada. The term “Incomplete Vehicle Types” in these statements refers to the types of the vehicles depicted on this manual’s cover and listed in the chart on the previous page.

The number preceding each Statement of Conformity refers to the number designation for a Part or a Section of Part 571 of the Federal Motor Vehicle Safety Standard.

The statements provided for each safety standard number are appropriate compliance representations for each Canadian safety standard number if this incomplete vehicle, identified by the VIN on the front of the document, was manufactured by Ford Motor Company for sale or use in Canada, except as may be noted at the conclusion of each safety standard number.

101 The statements below are applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 101, Controls and Displays if:

- The controls, displays, and their identifications supplied by Ford Motor Company are not removed, relocated, altered, or modified.
- The components, wiring, and power supply installed by Ford Motor Company to illuminate any control, display, or their identification are not removed or altered so as to affect lighting performance.
- Components added to the vehicle do not obstruct the driver’s ability to operate or visually locate the controls, displays, and their identifications.
- The driver-seat is not replaced, relocated, or modified other than for the addition of seat trim.

Any controls, displays, and illumination added to this vehicle must conform to the requirements of this Standard.

102 The statement below is applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 102, Transmission Shift Lever Sequence, Starter Interlock, and Transmission Braking Effect, if no alterations or adjustments are made to the transmission, shift cable, transmission outer shift lever, shift cable bracket, vacuum tubes, vacuum pump system, brake-shift interlock system, starter interlock system, wiring circuit from the interlock switch to the power source, and transmission gear selector indicator (PRNDL).

If an auxiliary transmission is added to this vehicle, it must conform to the requirements of this Standard.

103 The statement below is applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 103, Windshield Defrosting and Defogging Systems, if no alterations or adjustments are made to heater and blower assemblies, ducting, operating controls, electrical circuit from the blower assembly to the power source, windshield, coolant hoses from the radiator or engine to the heater, and if no obstructions are added that restrict or otherwise redirect the air flow from the defroster outlets to the windshield.

104 The statement below is applicable to all incomplete vehicle types:

This vehicle when completed, will conform to Standard 104, Windshield Wiping and Washing Systems, if no alterations are made to the windshield, the windshield wiping and washing system, including the electrical circuit from the windshield wiping and washing motors to the power source, and if no obstructions are added that restrict or otherwise redirect fluid flow from the washer nozzles to the windshield.

105 INFORMATION

Reference information that may be helpful for center of gravity calculations is available on the Ford Body Builders Advisory Service (BBAS) website https://fordbbas.com, under "Publications"

The Body Builder Layout Books contain chassis base curb weights, GAWR and dimensional information. Accessory weights are listed in the Ford eSourceBook, which can be found under "Vehicle Specifications". If you do not have access to this information online, please contact your Ford Dealer.

105 The statements below are applicable to the Transit vehicle when completed:

This vehicle when completed, will conform to Standard 105, Hydraulic and Electric Brake Systems, if:

- No alterations, modifications, or replacements are made to the following:
  - Service or parking brake system
  - Antilock brake system
  - Vacuum system
  - Wheels and tires
  - Brake system indicator lamp and wiring
  - Brake system reservoir labeling; label is not to be obstructed by additional underhood components
  - Suspension ride height or spring rate
  - Wheelbase

NOTE:
Refer to the Standard 126 statement in this manual for CGv restrictions on vehicles with less than or equal to 4536 kg [10,000 lb] GVWR.

- Additional sound deadener or rustproofing material applied to the vehicle must not interfere with the proper parking brake cable function.
- No part of add on equipment, i.e., toolboxes, flatbed attaching brackets, etc., can interfere with proper movement of parking brake cables or airflow to rear brake assemblies.
- The maximum GAWR's and GVWR, as identified on the cover of this document, are not exceeded.
- The service or parking brake pedal assembly operation is not restricted by any alteration or added components.
- The minimum unloaded vehicle rear axle weight values shown in Table C are met for chassis cab and cutaway vehicles.
- The completed vehicle center of gravity must be within the parameters of Table A in all loading conditions.

Equation A can be used to determine the completed vehicle's vertical center of gravity (Cgv) and Equation B can be used to determine the completed vehicle's horizontal center of gravity (Cgh). Abbreviation definitions and a vehicle diagram to assist with the equations are shown on a following page. Tables B, D and E provide reference information for these calculations.

NOTE:
Ford Motor Company provides Type I and Type II FMVSS/CMVSS 105 compliance statements for vehicles built to factory standard or optional specifications. Suspension ride height and/or spring rate modifications are factors that may affect compliance to this Standard. If an alterer or final stage manufacturer modifies the suspension ride height or spring rate of the factory-equipped vehicle, then they are responsible for engineering analysis or physical testing to ensure compliance and sign-off to Standard 105.

TABLE A
FMVSS 105 CENTER OF GRAVITY LIMITATIONS

Wheelbase (in)	FGAWR (kg [lb])	Max CGv at Full FGAWR (m [in])	Reduced FGAWR Options (1) Max CGv / Reduced FGAWR (m / kg [in / lb])			Max CGt (mm [in])
130 Van	1875 [4125]	1.0 [39.4]				50 [2.0]
	2100 [4620]	1.1 [43.3]	1.2 / 1975 [47.2 / 4345]	1.3 / 1850 [51.2 / 4070]		
138 CC / CA	1875 [4125]	1.0 [39.4]				50 [2.0]
	2100 [4620]	1.0 [39.4]	1.1 / 1950 [43.3 / 4290]	1.2 / 1830 [47.2 / 4026]	1.3 / 1700 [51.2 / 3740]	
148 Van	1875 [4125]	1.0 [39.4]				50 [2.0]
	2100 [4620]	1.0 [39.4]	1.1 / 2050 [43.3 / 4510]	1.2 / 1930 [47.2 / 4246]	1.3 / 1810 [51.2 / 3982]	
156 CC / CA	1875 [4125]	1.0 [39.4]				50 [2.0]
	2100 [4620]	1.1 [43.3]	1.2 / 2000 [47.2 / 4400]	1.3 / 1900 [51.2 / 4180]		
178 CC / CA	1875 [4125]	1.1 [43.3]				50 [2.0]
	2100 [4620]	1.3 [51.2]				

(1) In some configurations with Heavy Duty (2100 kg / 4620 lb) Front Axle, the Max CGv can be increased if the FGAWR is reduced. If one of the Reduced FGAWR options is exercised, the new lower FGAWR MUST be stated on the Final Stage Manufacturer's Certification label.

FMVSS 105 DEFINITIONS AND CALCULATION ILLUSTRATION FOR INCOMPLETE TRANSIT VEHICLES

P = Passenger load (kg [pounds])

CGv = Vertical distance from the ground to the center of gravity of the completed vehicle (mm [inches])

CGh = Horizontal distance from C/L of the front wheels to the completed vehicle center of gravity (mm [inches])

CGvb = Vertical distance from the ground to the center of gravity of the SUB and/or permanently attached added equipment (mm [inches])

CGvc = Vertical distance from the ground to the center of gravity of the chassis, including cab (mm [inches])

CGhc = Horizontal distance from the C/L of the front wheels to the center of gravity of the chassis, including cab (mm [inches])

CGvp = Vertical distance from the ground to the passenger load P (mm [inches])

CGhp = Horizontal distance from the C/L of the front wheels to the passenger load P (mm [inches])

Wb = Weight of the SUB and/or permanently attached added equipment (kg [pounds])

Wrb = Weight at the rear wheels of the SUB and/or permanently attached added equipment (kg [pounds])

Wrc = Weight at the rear wheels of the vehicle (chassis and cab, fuel tanks full) including option weight (kg [pounds])

Wc = Weight of the vehicle (chassis and cab, fuel tanks full) including option weight (kg [pounds])

WB = Vehicle wheelbase (mm [inches])

Wt = Total unladen weight (kilograms [pounds]):

$$Wt = (Wb + Wc + P)$$

GVWR = Gross Vehicle Weight Rating of the vehicle (kg [pounds])

Wl = Remaining cargo capacity (kg [pounds]):

$$Wl = GVWR - (Wb + Wc + P)$$

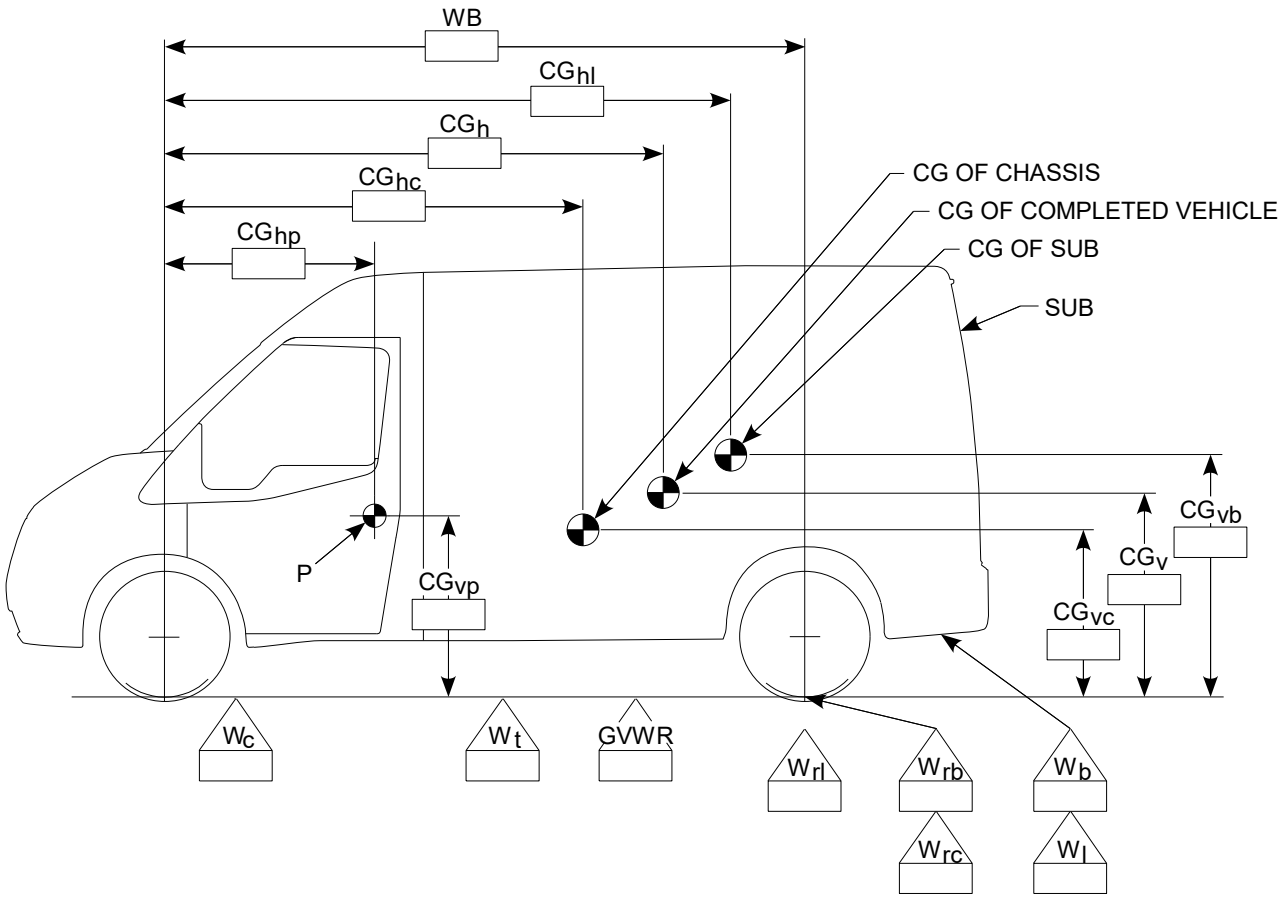
Wrl = Weight of the remaining cargo capacity on the rear wheels (kg [pounds]):

$$Wrl = \frac{(CGhl)\ Wl}{WB}$$

CGhl = Horizontal distance distance from the C/L of the front wheels to the cargo center of gravity. CGhl may be estimated as the distance from the front wheel to the horizontal midpoint of the cargo area. (mm [inches])

SUB = A Second Unit Body consists of the body structure and/or all the cargo carrying, work performing, and/or load bearing components and/or equipment installed by a subsequent stage manufacturer on an incomplete vehicle, such that the incomplete vehicle becomes a completed vehicle.

CGt = Transverse distance from the geometric C/L of the vehicle to the completed vehicle center of gravity (mm [inches])



EQUATION A

$$CG_v = \frac{CG_{vb}W_b + CG_{vc}W_c + CG_{vl}W_l + CG_{vp}P}{GVWR}$$

EQUATION B

$$CG_h = \frac{\left(W_{rb} + W_{rc} + \left(\frac{P \times CG_{hp}}{WB}\right) + W_{rl}\right) \times WB}{GVWR}$$

TABLE B
PASSENGER LOAD (P)

GVWR	Kilograms [pounds]
3901 – 4536 kg [8600 – 10,000 lb]	181 [400]
4537 – 8618 kg [10,001 – 19,000 lb]	227 [500]

TABLE C
MINIMUM UNLOADED VEHICLE REAR AXLE WEIGHT FOR FMVSS 105 COMPLIANCE (1)

Model	Kilograms [Pounds]
Transit Chassis Cab or Cutaway All WB	870 [1914]

(1) Unloaded Vehicle Rear Axle Weight = Chassis Rear Axle Curb Weight + Weight of SUB calculated at the Rear Axle

TABLE D
PASSENGER LOAD CG

Model	CGhp mm [in]	CGvp mm [in]
All Transit models	1031 [40.6]	1059 [41.7]

TABLE E
SAMPLES OF CHASSIS VERTICAL CENTER OF GRAVITY

Model	GVWR (lbs)	Engine	CGvc mm [in]
Transit 250 SRW Low-Roof Cargo Van 3300 mm [130 in] WB	9070	3.5L PFDI Gas	783 [30.8]
Transit 250 SRW Medium-Roof Cargo Van 3750 mm [148 in] WB	9070	2.0L Diesel	834 [32.8]
Transit 350 DRW Hi-Roof Passenger Van 3750 mm [148 in] WB	9250	3.5L GTDI Gas	877 [34.5]
Transit 350 DRW Hi-Roof Extended Cargo Van 3750 mm [148 in] WB	10,360	2.0L Diesel	881 [34.7]
Transit 350 DRW Hi-Roof Extended Cargo Van 3750 mm [148 in] WB	10,360	3.5L GTDI Gas	883 [34.8]
Transit 250 SRW Chassis Cab 3504 mm [138 in] WB	9070	3.5L PFDI Gas	723 [28.5]
Transit 250 SRW Chassis Cab 3504 mm [138 in] WB	9070	2.0L Diesel	699 [27.5]
Transit 350 SRW Chassis Cab 3954 mm [156 in] WB	9500	2.0L Diesel	749 [29.5]
Transit 350 DRW Chassis Cab 3504 mm [138 in] WB	9950	2.0L Diesel	712 [28.1]
Transit 350 DRW Cutaway Cab 4522 mm [178 in] WB	10,360	2.0L Diesel	749 [29.5]
Transit 350 DRW Chassis Cab 3954 mm [156 in] WB	11,000	3.5L GTDI Gas	686 [27.0]

106 The statement below is applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 106, Brake Hoses, if the brake hose assemblies supplied by Ford Motor Company are not removed, relocated, altered, or modified and if no brake hose assemblies are added.

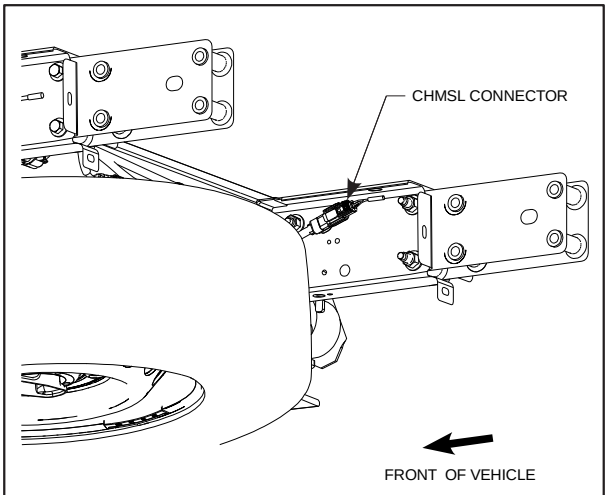
108 The statements below, concerning Standard 108 Lamps, Reflective Devices, and Associated Equipment, are applicable to all incomplete vehicle types:

- No additional components may be added to the vehicle which block access to the headlamp aiming devices, as provided by Ford Motor Company, if removing them requires the use of tools.
- Daytime Running Lamps (DRL's): Vehicles for sale or use in Canada are equipped with DRL's that meet CMVSS 108 DRL requirements; DRL's, when provided on an incomplete vehicle, also meet FMVSS 108 specifications.
- Conformity with Standard 108, S12, Headlamp Concealment Devices, cannot be determined based upon the components supplied on this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this section of the Standard.

108 The statement below is applicable to the following vehicle type with a GVWR of 4536 kg [10,000 lb] or less and a vehicle width less than 2032 mm [80.00 in]:

- **Chassis Cab or Cutaway**

This vehicle, when completed, will conform to Standard 108, Lamps, Reflective Devices, and Associated Equipment, if a Center High Mounted Stop Lamp (CHMSL) is installed so it meets all the applicable requirements of this standard and is connected to the electrical power source as provided by Ford Motor Company. See the figure below for circuit location.



TRANSIT CHASSIS CAB OR CUTAWAY

CENTER HIGH-MOUNTED STOP LAMP (CHMSL) – ELECTRICAL CONNECTOR LOCATION

108 The statements below are applicable to the following incomplete vehicle type:

- **Chassis Cab or Cutaway**

This vehicle, when completed, will conform to Standard 108, Lamps, Reflective Devices, and Associated Equipment, if all the required lighting equipment as indicated in Table F (identified by the codes R and S) is designed and installed in accordance with the requirements of Standard 108 and the directions contained in this compliance manual. Additionally, if the completed vehicle width is 2032 mm [80 in] or more, and/or the overall length is 9.14 meters [30 feet] or more, front and rear clearance lamps, and front and rear identification lamps, and/or intermediate side marker lamps, and reflex reflectors (not supplied by Ford Motor Company) are also required for compliance with Standard 108.

The items of equipment which are supplied by Ford Motor Company (identified by the code S in Table F) are designed and installed to conform to all the applicable requirements of Standard 108. The completed vehicle, with these components installed, will conform to Standard 108 if the subsequent stage manufacturer does not remove, relocate, replace or modify such equipment or modify the power supply or wiring to such equipment, and does not complete the body in such a configuration as to impair the conformity to the photometric and/or visibility requirements of the installed lamps and reflective devices.

Specific requirements for the fitment of lighting and associated equipment are listed by incomplete vehicle type in Table F.

Lamps, reflective devices, and associated equipment necessary to complete the vehicle from an incomplete vehicle stage must conform to the equipment, location, activation, visibility, photometric and performance requirements of Standard 108 and to the applicable SAE standards or recommended practices referenced or sub-referenced in this Standard.

All electrical equipment added to the vehicle by subsequent stage manufacturers must conform to the wiring practices set forth in the Electrical Wiring Section of the *Ford Truck Body Builders Layout Book*.

108 The statements below are applicable to the following incomplete vehicle types:

- **Incomplete Cargo Van or Passenger Van**

This vehicle, when completed, will conform to Standard 108, Lamps, Reflective Devices, and Associated Equipment, if the subsequent stage manufacturer does not:

- Remove, alter, replace, or relocate the lighting equipment installed on the incomplete vehicle.
- Modify the power supply or wiring to such equipment.
- Add any additional external lighting equipment.
- Increase or decrease the overall width of the vehicle as manufactured by Ford Motor Company.
- Complete, modify, or add components to the vehicle in such a manner as to impair the visibility and conformity to the photometric requirements of the installed lamps and reflective devices.

For vehicles over 80" wide, the OEM mirror assemblies incorporate clearance lamps in their housings. If a vehicle is ordered with a mirror-delete option, Ford Motor Company makes no representation as to the compliance of the completed vehicle to this portion of Standard 108.

108 *(Continued next page)*

TABLE F

Standard 108 Lighting Equipment For Transit Chassis Cab & Cutaway Vehicles

Item		Completed as Truck, MPV, Bus or School Bus: Width less than 2032 mm [80 in]	Completed as Truck, MPV, Bus or School Bus: Width 2032 mm [80 in] or more
Headlamps with Hi/Lo beam switching		S (1)	S (1)
Daytime Running Lights (when provided)		N/S (2)	N/S (2)
Tail Lamps		S (3)	S (3)
Stop Lamps		S (3)	S (3)
Center High Mounted Stop Lamp (CHMSL)		R	N
License Plate Lamps		R	R
Reflex Reflectors	– Side Front	S	S
	– Side Rear	R	R
	– Rear	R	R
Side Marker Lamps	– Front	S	S
	– Rear	R	R
Back-Up Lamps		S (3)	S (3)
Turn Signal Lamps	– Front	S	S
	– Rear	S (3)	S (3)
Turn Signal Operating Unit		S	S
Turn Signal Flasher		S (4)	S (4)
Vehicular Hazard Warning Signal Operating Unit		S	S
Vehicular Hazard Warning Signal Flasher		S	S
Identification Lamps	– Front	N (5)	R/S (6)
	– Rear	N	R
Clearance Lamps	– Front	N (5)	R/S (7)
	– Rear	N	R
Parking Lamps		S	N

S Required on completed vehicle and supplied with the incomplete vehicle.

R Required on completed vehicle and not supplied with the incomplete vehicle.

N Not required for completed vehicle.

(1) Due to variations in finished vehicle attitude, headlights should be aimed after the modifications are completed.

(2) Required on Canadian vehicles; optional on U.S. Vehicles.

(3) For vehicles provided with rear frame extensions, visibility requirements may not be met. The subsequent stage manufacturer is responsible for installing light assemblies in a location in compliance with F/CMVSS 108.

(4) Turn signal flasher function is contained within the Body Control Module features. Chassis Cab and Cutaway vehicles are configured to provide the function of a variable-load turn signal flasher. Turn signal lamp failure indication is not supplied with the incomplete vehicle and will be required if the completed vehicle does not meet the exemption criteria in S9.3.6 of FMVSS 108.

(5) Supplied as supplemental lighting, standard on Chassis Cab, optional on Cutaway.

(6) Additional identification lamps may be required on the Second Unit Body if the SUB is higher than the cab.

(7) Supplied standard on Chassis Cab, optional on Cutaway. Cab-mounted clearance lamps, as supplied, do not adequately indicate overall width of the vehicle per requirements of F/CMVSS 108; additional clearance lamps will be required.

108 *(Continued)*

108 Canadian Requirements:

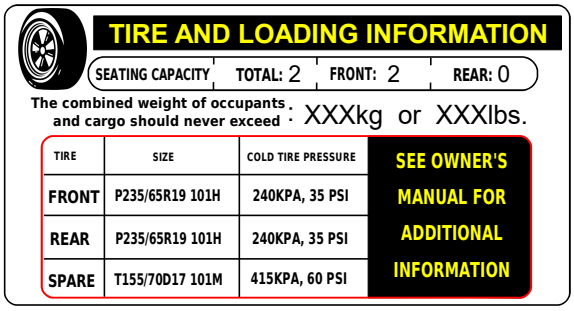
The preceding statements for Standard 108 are appropriate compliance representations for CMVSS 108, Lighting System and Retroreflective Devices, if this vehicle is manufactured for sale or use in Canada, provided:

- No component of the supplied Daytime Running Lamp (DRL) system is removed, relocated, or modified.
- The DRL circuits in the Body Control Module or headlamp circuits/ hardware are not altered.
- The Body Control Module is not repositioned.

The Transit, when equipped with a Body Control Module configured for Daytime Running Lamps as provided by Ford Motor Company, is designed for a two headlamp system that functions at a reduced low beam lamp intensity while operated in the DRL mode.

110 The statement below is applicable to all incomplete vehicles with a GVWR of 4536 kg [10,000 lbs] or less:

This incomplete vehicle does not comply to FMVSS 110, Tire Selection and Rims and Motor Home / Recreation Vehicle Trailer Load Carrying Capacity Information for Motor Vehicles with a GVWR of 4,536 Kilograms (10,000 Pounds) or Less. In order to comply, the final stage manufacturer must permanently affix a tire placard as specified in paragraph S4.3. The placard must be affixed to the B-Pillar. Shown below is a sample U.S. (only) placard; Canadian vehicles require a similar, but bilingual placard.



111 The statement below is applicable to all incomplete vehicle types when <u>not</u> equipped with outside mirrors:

Conformity with Standard 111, Rear Visibility, cannot be determined based upon the components supplied on this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

111 The statement below is applicable to all incomplete vehicle type when equipped with OEM outside mirrors:

This vehicle, when completed, will conform to Standard 111, Rear Visibility, S6 & S7 as it relates to outside mirrors, if:

- The mirrors and their mounts as supplied by Ford Motor Company are not removed, relocated, replaced, obstructed, or altered.
- No structural modifications are made to the body which would affect the stability of the mirror mounts.
- Any modifications or additions made to the incomplete vehicle must not adversely affect the driver's view to the rear in the outside mirrors along both sides of the vehicle.

111 The statement below is applicable to the following incomplete vehicle types with a GVWR of 4536 kg [10,000 lb] or less:

- **Incomplete Cargo Van or Passenger Van**

This vehicle, when completed, will conform to Standard 111, Rear Visibility, S6.2 Rear visibility, as relates to rearview image devices, if the rear visibility system as provided by Ford Motor Company is not removed, relocated, replaced, obstructed, or altered.

111 The statement below is applicable to the following incomplete vehicle types with a GVWR of 4536 kg [10,000 lb] or less:

- **Chassis Cab or Cutaway**

Conformity with Standard 111, Rear Visibility, S6.2 Rear visibility, as relates to rearview image devices, cannot be determined based upon the components supplied on this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

113 The statement below is applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 113, Hood Latch Systems, if the hood latch system as provided by Ford Motor Company is not removed or altered.

114 The statements below are applicable to all incomplete vehicle types when completed as either a MPV or a Truck with a GVWR of 4536 kg [10,000 lb] or less:

This vehicle, when completed, will conform to Standard 114, Theft Protection and Rollaway Prevention, if the following components, to the extent provided by Ford Motor Company, are not removed, relocated, altered, or modified in any way:

- Steering column locking mechanism system
- Ignition key/transmission shift interlock locking system
- Ignition key-locking system
- Key warning buzzer system

If any of the above components are added to the vehicle they must conform to the requirements of this Standard.

115 Canadian Requirements:

The statements for Part 565.13 are appropriate compliance representations for CMVSS 115, Vehicle Identification Number, if this incomplete vehicle was manufactured for sale or use in Canada.

116 The statement below is applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 116, Motor Vehicle Brake Fluids, provided any brake fluid added or replaced is Motorcraft/Ford DOT 4 LV High-Performance Brake Fluid or equivalent meeting WSS-M6C65-A2 or the ISO 4925 Class 6 specification and contaminants are not introduced into the hydraulic brake system. Use of any other fluid other than the recommended fluid may cause degraded brake performance and not meet Ford Motor Company's performance standards.

118 The statement below is applicable to all incomplete vehicle types <u>not equipped</u> with power-operated windows when completed as either a MPV or a Truck with a GVWR of 4536 kg [10,000 lb] or less:

Conformity with Standard 118, Power-Operated Window, Partition, and Roof Panel Systems, cannot be determined based upon the components supplied on this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard. If any power-operated window, partition, or roof panel systems are installed by subsequent stage manufacturers, they must conform to the requirements of Standard 118.

118 The statement below is applicable to all incomplete vehicle types <u>equipped</u> with power-operated windows when completed as either a MPV or a Truck with a GVWR of 4536 kg [10,000 lb] or less:

This vehicle, when completed, will conform to Standard 118, Power-Operated Window, Partition, and Roof Panel Systems, if the power operated windows, motors, wiring, and key and switch activation systems, where provided by Ford Motor Company, are not removed, relocated, altered, or modified in any way. If additional power-operated window, partition, or roof panel systems are installed by subsequent stage manufacturers, they must conform to the requirements of Standard 118.

119 The statement below is applicable to all incomplete vehicle types:

All tires supplied by Ford Motor Company are in full conformity with Standard 119, New Pneumatic Tires for Motor Vehicles with a GVWR of More Than 4536 Kilograms (10,000 Pounds) and Motorcycles.

If additional tires are installed or the existing tires are replaced by subsequent stage manufacturers, they must conform to the requirements of Standard 119.

120 The statements below are applicable to all incomplete vehicles:

This vehicle, when completed, will conform to the tire and rim selection requirements of Standard 120, Tire Selection and Rims and Motor Home / Recreation Vehicle Trailer Load Carrying Capacity Information for Motor Vehicles with a GVWR of More Than 4536 Kilograms (10,000 Pounds), if:

- The tire and rim assemblies are not removed, altered, or replaced.
- The Incomplete Vehicle Information Label that is either provided with the incomplete vehicle or affixed to the vehicle is not removed.

The final stage manufacturer also must, in accordance with the requirements of Standard 120 and Part 567 of Title 49, Code of Federal Regulations (Section 6.6 of the Canadian Motor Vehicle Safety Regulations), affix a Certification (Compliance) label to the completed vehicle indicating tire size, rim size, cold inflation pressure, and the gross axle weight ratings. This information is provided on the label that is affixed to the cover of this Incomplete Vehicle Manual (IVM).

124 The statements below are applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 124, Accelerator Control Systems, if:

- No alterations are made to the accelerator pedal, mounting hardware, adjustable pedal mechanism, or other components of the accelerator control system as installed by Ford Motor Company.
- No equipment is added nor existing equipment modified which would restrict operation of the accelerator control system.
- No alterations are made to the Pedal Position Sensor and all associated hardware and wiring.

126 The statements below are applicable all incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

This vehicle, when equipped with a Roll Stability Control (RSC) feature, will conform to Standard 126, Electronic Stability Control Systems, when completed, if:

- The vertical center of gravity (CGv) of the completed vehicle (as upfit) is less than or equal to the following limitations and no modifications have been made to the components of the braking system, suspension system, wheels and tires:

Roll Stability Control Maximum CGv			
Vehicle Type	**Rear Axle**	**Wheelbase mm [in]**	**Max CGv mm [in]**
Cargo and Crew Van*	SRW	3300 [130]	925 [36.4]
		3750 [148]	1016 [40.0]
	DRW	3750 [148]	1067 [42.0]
Passenger Van	SRW	3300 [130]	953 [37.5]
		3750 [148]	1016 [40.0]
Chassis Cab & Cutaway	SRW	3500 [138]	925 [36.4]
		3952 [156]	991 [39.0]
	DRW	3500 [138]	1001 [39.4]
		3952 [156]	1024 [40.3]
		4521 [178]	1067 [42.0]

* Includes Extended Length (EL) body

- Completed vehicle weight should not exceed Maximum Unloaded Vehicle Weights (UVW).

For vehicles equipped with RSC, if the vertical center of gravity (CGv) of the vehicle is above the noted limitations, Ford Motor Company makes no representation as to conformity with this Standard.

131 The statement below is applicable to the Cutaway incomplete vehicle when equipped with the School Bus Prep Package and completed as a school bus:

Conformity with Standard 131, School Bus Pedestrian Safety Devices, cannot be determined based upon the components supplied on this incomplete vehicle. Accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

138 The statements below are applicable to all single rear wheel (SRW) incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less (if equipped):

The Tire Pressure Monitoring System (TPMS) is subject to interference from the addition of metallic structures between the wheel-mounted sensor transmitters and the on-board receiver.

This vehicle, when completed, will conform to Standard 138, Tire Pressure Monitoring Systems, if:

- No alterations are made to the tire pressure sensors (valve stems), wheels, tires, recommended tire pressures, electrical Body Control Module, TPMS receiver (located on overhead shelf, or in headliner on low-roof models), instrument cluster, instrument panel wiring, or software calibrations.
- Wheelbases are not lengthened.
- No equipment that emits radio frequency (RF) energy is added to the vehicle.
- After vehicle upfit, function of the Tire Pressure Monitoring System is verified in accordance with FMVSS 138 and in accordance with information provided in the vehicle's *Owner's Manual*.

139 The statements below are applicable to all incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less :

All tires supplied by Ford Motor Company are in full conformity with Standard 139, New Pneumatic Radial Tires for Light Vehicles.

If additional tires are installed or the existing tires are replaced by subsequent stage manufacturers, they must conform to the requirements of Standard 139.

201 The statements below are applicable to incomplete vehicles with a GVWR of 4536 kg [10,000 lb] or less:

This vehicle, when completed, will conform to Standard 201, Occupant Protection in Interior Impact (excluding U.S. Section S6 requirements addressed separately), if the following components, as provided by Ford Motor Company, are not removed, relocated, altered, or modified in any way:

- Instrument panel
- Interior compartment doors
- Overhead tray (when equipped)
- Headliner
- Sun visors
- Arm rests

Seat backs of front seats installed by Ford Motor Company are designed to meet the seat back requirements of Standard 201.

If any of the above mentioned components (including front seats) are added to the incomplete vehicle by a subsequent stage manufacturer, these components must conform to the requirements of Standard 201 where applicable.

Because conformity of a completed vehicle to the seat back requirements of this standard is dependent upon the location of a seat installed by a subsequent stage manufacturer to the rear of another seat, Ford Motor Company makes no representation as to compliance of a completed vehicle to the seat back requirements if such a seat is installed.

If a vehicle is equipped with a Passenger-side Air Bag Delete option, a RH passenger seat should never be installed. If such a seat is installed, Ford Motor Company makes no representation as to the compliance of the completed vehicle to Standard 201.

201U U.S. Requirements (Section S6):

The statements below are applicable to the following incomplete vehicle type if the GVWR is 4536 kg [10,000 lb] or less. (Note: Buses with a GVWR more than 3860 kg [8510 lbs] are exempt from the requirements):

- **Incomplete Cargo Van or Passenger Van**
- **Chassis Cab or Cutaway**

This incomplete vehicle will conform to Standard 201 Section 6, Occupant Protection in Interior Impact – Requirements for Upper Interior Components, if in the process of completing the vehicle none of the following components, as provided by Ford Motor Company, are removed, relocated, altered, or modified either physically or chemically:

- A, B, rear, or other pillar and trim and assist handles
- Seat belt 'D'-rings/adjusters and 'D'-ring covers and sling systems
- Canopy air curtain (if equipped)
- Front or rear header, headliner and trim
- Overhead tray
- Side rails, trim, coat hooks and ride handles
- Upper roof and trim
- Exterior windshield trim
- Exterior roof drain ditches
- Primary and secondary door/body seals at all door opening locations in the vehicle
- Sunvisors and attachment hardware
- Changes to the design Seating Reference Point (SRP) with modifications to the seat system

NOTE: Standard 201 Section 6 requires compliance of all upper interior components located forward of a vertical plane 300 mm behind the seating reference point of the driver's designated seating position.

NOTE: If an alterer or final stage manufacturer adds any component located within 300mm rearward of the driver's designated seating reference point (this includes any of the components listed above, or back panels, bulkheads/dividers, etc.), these components will have to conform to the requirements of Standard 201 Section 6 where applicable. Also, because the upper interior performance for Cutaway products is affected by the rigidity of the back panel attachment, existing upper interior trim components may require recertification after attachment of a back panel.

201U U.S. Requirements (Section S6 - Upper Interior Components):

The statement below is applicable to the following incomplete vehicle type if the GVWR is 4536 kg [10,000 lb] or less:

- **Incomplete Cargo Van, Passenger Van or Cutaway equipped with Prep Package without headliner trim, or if headliner removed by final stage manufacturer on a vehicle so equipped**

Conformity with Standard 201 Section 6, Occupant Protection in Interior Impact - Upper Interior Head Impact Protection Requirements, cannot be determined based upon the components supplied on the incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

202a The statements below are applicable to all incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

This vehicle when completed, will conform to Standard 202a, Head Restraints, if:

- No alterations are made to the head restraints, the seat assemblies and their anchorages, the floor pan, or floor pan reinforcements.

Any front outboard passenger seat, added to a cutaway when completed as a truck, MPV, or bus (not school bus), must conform with the requirements of this Standard.

203 The statement below is applicable to all incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

This vehicle, when completed, will conform to Standard 203, Impact Protection for the Driver from the Steering Control System, if the steering control system is not removed, relocated, altered, or modified in any way and no components or attachments are added to the steering control system that can catch the driver's clothing or jewelry during normal driving maneuvers.

203 Canadian Requirements:

The preceding statements for FMVSS 203 are appropriate compliance representations for CMVSS 203, Driver Impact Protection and Steering Control System, if this incomplete vehicle was manufactured for sale or use in Canada.

204 INFORMATION

Refer to the *Transit Body Builders Layout Book* on the web at https://fordbbas.com under "Publications" for Second Unit Body attachment information that may aid in designing second unit bodies and their attachments to be compatible with Transit vehicles.

204 The statements below are applicable to all incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less and the Unloaded Vehicle Weight, when completed, is 2495 kg [5,500 lb] or less:

This vehicle, when completed, will conform to Standard 204, Steering Control Rearward Displacement, if:

- No components are added which could influence the rearward displacement of the steering column.
- The steering column, steering intermediate and coupling shaft, steering wheel, steering gear, steering linkage, related structural components, and attaching hardware, as installed by Ford Motor Company, are not removed, relocated, altered, or modified in any way.
- No alteration or modifications are made to the body chassis, drivetrain, or front suspension from the B-pillar forward.

205 The statement below is applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 205, Glazing Materials, if no alterations to or replacements of the installed glazing materials are made and if additional glazing material installed by a subsequent stage manufacturer conforms to the requirements of Standard 205.

206 The statements below are applicable to all incomplete vehicle types when completed as a Truck:

This vehicle, when completed, will conform to Standard 206, Door Locks and Door Retention Components, if no alterations or adjustments are made to the door, door pillar structure, door locks, door latches, striker plates, hinges, and attaching hardware as installed by Ford Motor Company.

Any door added to this vehicle by a subsequent stage manufacturer must be equipped with door locks and door retention components that conform to the requirements of Standard 206.

207 The statements below are applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 207, Seating Systems, if no alterations are made to the seat assemblies, their anchorages, the floor pan, or floor pan reinforcements. Any seating system added to this vehicle must conform to applicable requirements of this Standard. When the Cutaway is completed as a school bus, also see Standard 222.

If the front seat attaching hardware is removed for any reason, it must be reinstalled to the specifications in the appropriate Ford Truck Service Manual.

The Incomplete Cargo Van or Passenger Van may have additional anchorages for rear seats other than the front driver and passenger seats. These locations apply to specific hardware and designated seating positions used in Ford completed vehicles. If these anchorages are used without the appropriate Ford seats, seat belt systems, and hardware, Ford Motor Company makes no representation as to conformity with this Standard.

208 NOTE

A Restraints Control Module (RCM) is located under the parking brake assembly. Care must be used to avoid damage to the RCM and sensor wiring during removal or re-installation of the driver's seat. Refer to Figure B.

208 The statements below are applicable to all incomplete vehicle types when equipped with Ford trimmed front seats and either the GVWR is over 3856 kg [8500 lb], or the Unloaded Vehicle Weight, when completed, is over 2495 kg [5500 lb]:

This vehicle, when completed, will conform to Standard 208, Occupant Crash Protection, if:

- The seat belts, seat belt warning system, and attaching hardware installed by Ford Motor Company are not removed, relocated, altered, or modified.
- No actions are taken which would impair the integrity of the belt and seat belt warning systems. (A seat belt warning system is not required for a vehicle with a GVWR over 4536 kg [10,000 lb] or for a bus).
- Any rear seats installed by Ford Motor Company that are temporarily removed for any reason are returned to their original location and condition in the vehicle.
- The Air Bag Supplemental Restraint System (Driver, Passenger, Seats, Canopy Air Curtain) as installed by Ford Motor Company (see Figures B & C) is not removed, relocated, modified or altered in any way.
- The Air Bag Supplemental Restraint System Information Labels that are affixed to the front visors are visible and not altered, modified, or removed. If the Air Bag Supplemental Restraint System Information Labels are not affixed to the front visors, but shipped in dunnage, the following is necessary to meet Standard 208:
  - The information label must be permanently affixed to each visor in an upright position readable from the driver's or passenger's seating position.
  - If the label is not visible when the visor is stored (up position), an Air Bag Alert Label shall be placed on the visible surface of the visor as specified in Section 4.5.1(c) of Standard 208.
  - If the information label and/or the visor is not included on a Prep package, Ford Motor Company makes no representation as to conformity with this Standard.

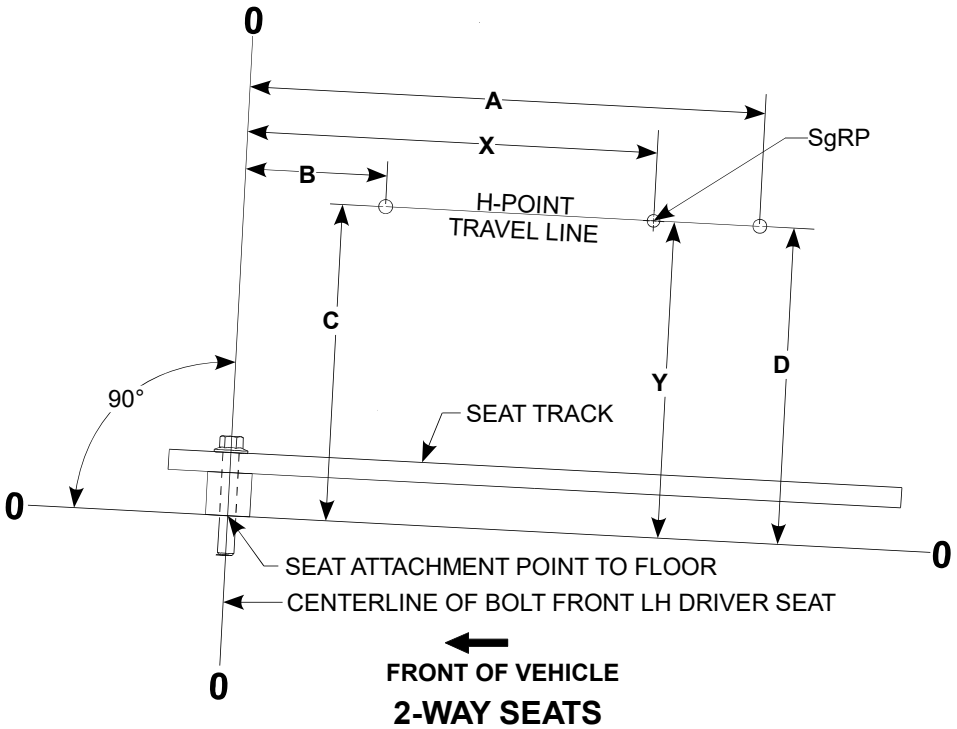
Any seat belt assemblies added to this vehicle must conform to the applicable requirements of this Standard.

208 Canadian Requirements:

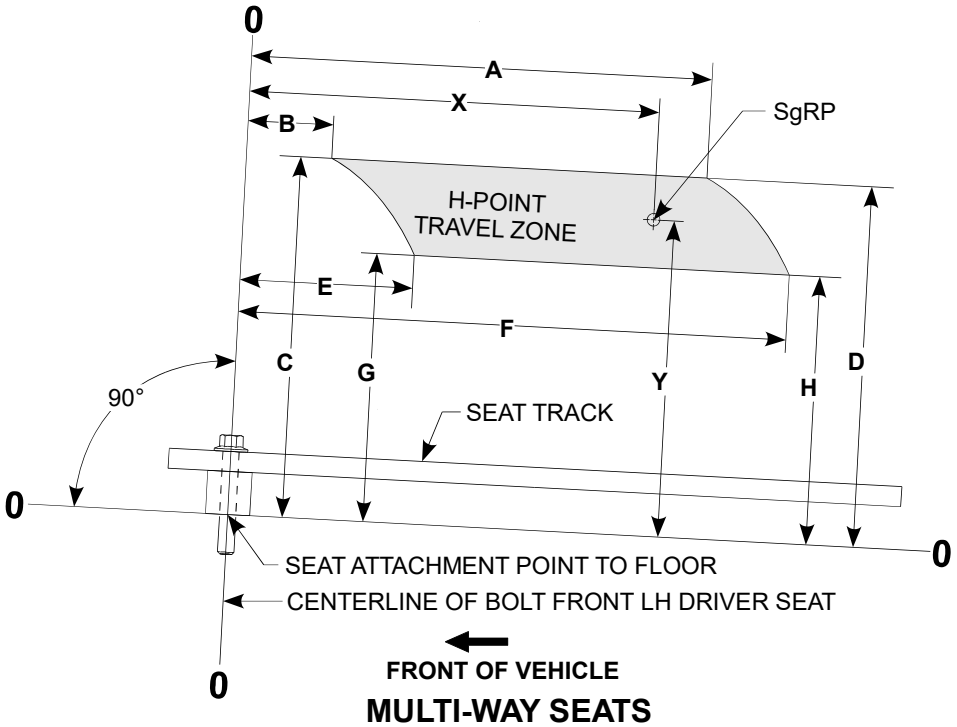
The preceding statements and supporting figures for FMVSS 208 are appropriate compliance representations for CMVSS 208, Occupant Protection in Frontal Impacts, if this incomplete vehicle was manufactured for sale or use in Canada. In such a case, CMVSS 208 paragraphs (13), (14), and (15) are substituted for the reference to FMVSS 208 Section 7.1; CMVSS 208 paragraph (20) should be substituted for the reference to FMVSS 208 Section 7.2; and CMVSS 208 paragraphs (29), (30), (31), (32), (33), (34), (35), (36), (37), (38), (39), and (40) should be substituted for the reference to FMVSS 208 Section 7.4.

WARNING:

Vehicles, including those over 3856 kg [8500 lb] GVWR and/or over 2495 kg [5500 lb] UVW, are equipped with a front row occupant supplemental restraint system (front/side/curtain airbags, wiring, and sensors including a Restraints Control Module (RCM) under driver's seat) and pyrotechnic buckle pretensioner(s). Deletion of front passenger accommodations including restraints, seat, and pedestal coupled with the addition of delete resistors in the sensor system circuitry is available on some vehicles. Modifications to the vehicle forward of or near crash sensors may affect the deployment of the airbag(s) and pretensioner(s).



2-WAY SEATS



MULTI-WAY SEATS

SEAT TRAVEL DATA										
Seat Model	Seat Dimensions								SgRP Location	
	A	B	C	D	E	F	G	H	X	Y
2-Way Seat	302 [11.9]	54 [2.1]	449 [17.7]	449 [17.7]	—	—	—	—	261 [10.3]	449 [17.7]
4-Way Seat	290 [11.4]	42 [1.7]	477 [18.8]	477 [18.8]	47 [1.9]	295 [11.6]	418 [16.5]	412 [16.2]	261 [10.3]	449 [17.7]
4-Way Swivel	302 [11.9]	54 [2.1]	477 [18.8]	477 [18.8]	48 [1.9]	296 [11.7]	455 [17.9]	449 [17.7]	261 [10.3]	449 [17.7]
10-Way Seat	293 [11.5]	44 [1.7]	479 [18.9]	479 [18.9]	35 [1.4]	284 [11.2]	400 [15.7]	400 [15.7]	261 [10.3]	449 [17.7]
Seat Track Angle To Top Of Frame = 2.4°										

NOTE — [ ] Dimensions are in inches.

FIGURE A – TRANSIT SEATING REFERENCE POINT (SgRP)

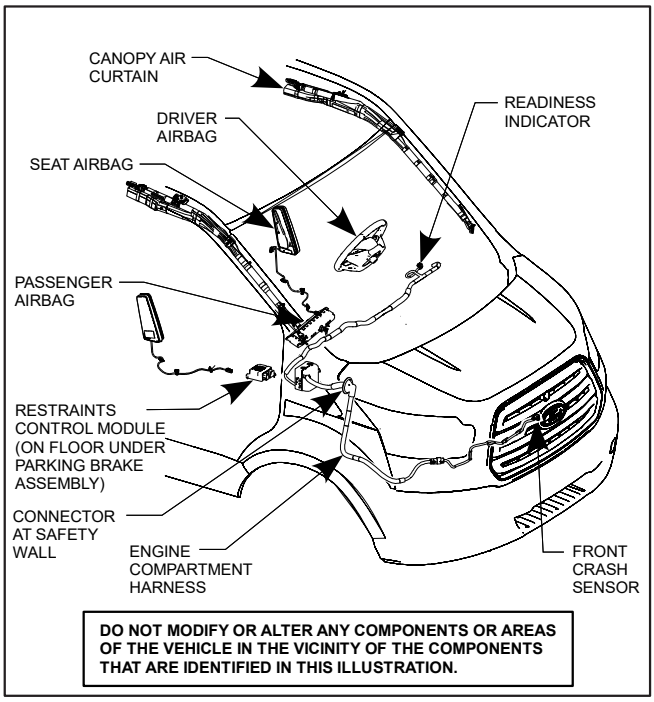

CANOPY AIR CURTAIN
DRIVER AIRBAG
SEAT AIRBAG
READINESS INDICATOR
PASSENGER AIRBAG
RESTRAINTS CONTROL MODULE (ON FLOOR UNDER PARKING BRAKE ASSEMBLY)
CONNECTOR AT SAFETY WALL
ENGINE COMPARTMENT HARNESS
FRONT CRASH SENSOR
DO NOT MODIFY OR ALTER ANY COMPONENTS OR AREAS OF THE VEHICLE IN THE VICINITY OF THE COMPONENTS THAT ARE IDENTIFIED IN THIS ILLUSTRATION.

FIGURE B1 – TRANSIT SUPPLEMENTAL RESTRAINT SYSTEM (Air Bags, Sensors, and Wiring)

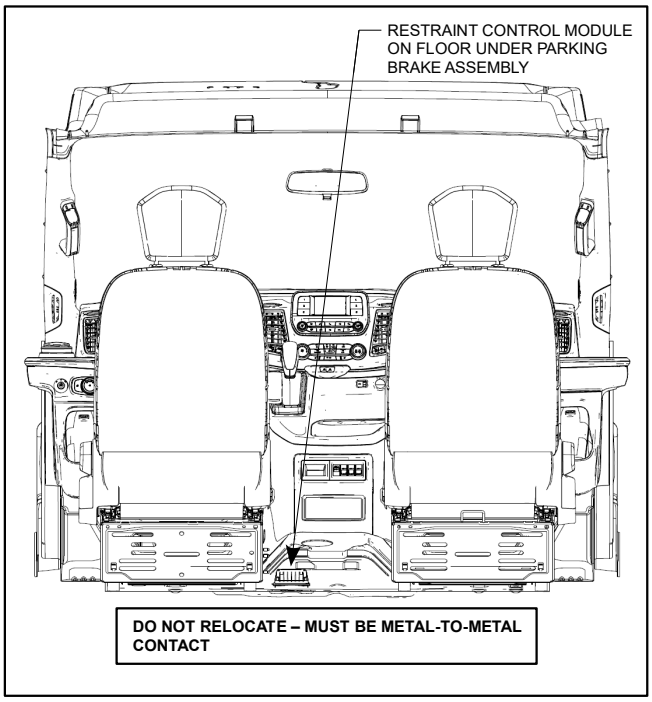


FIGURE B2 – TRANSIT RESTRAINT CONTROL MODULE

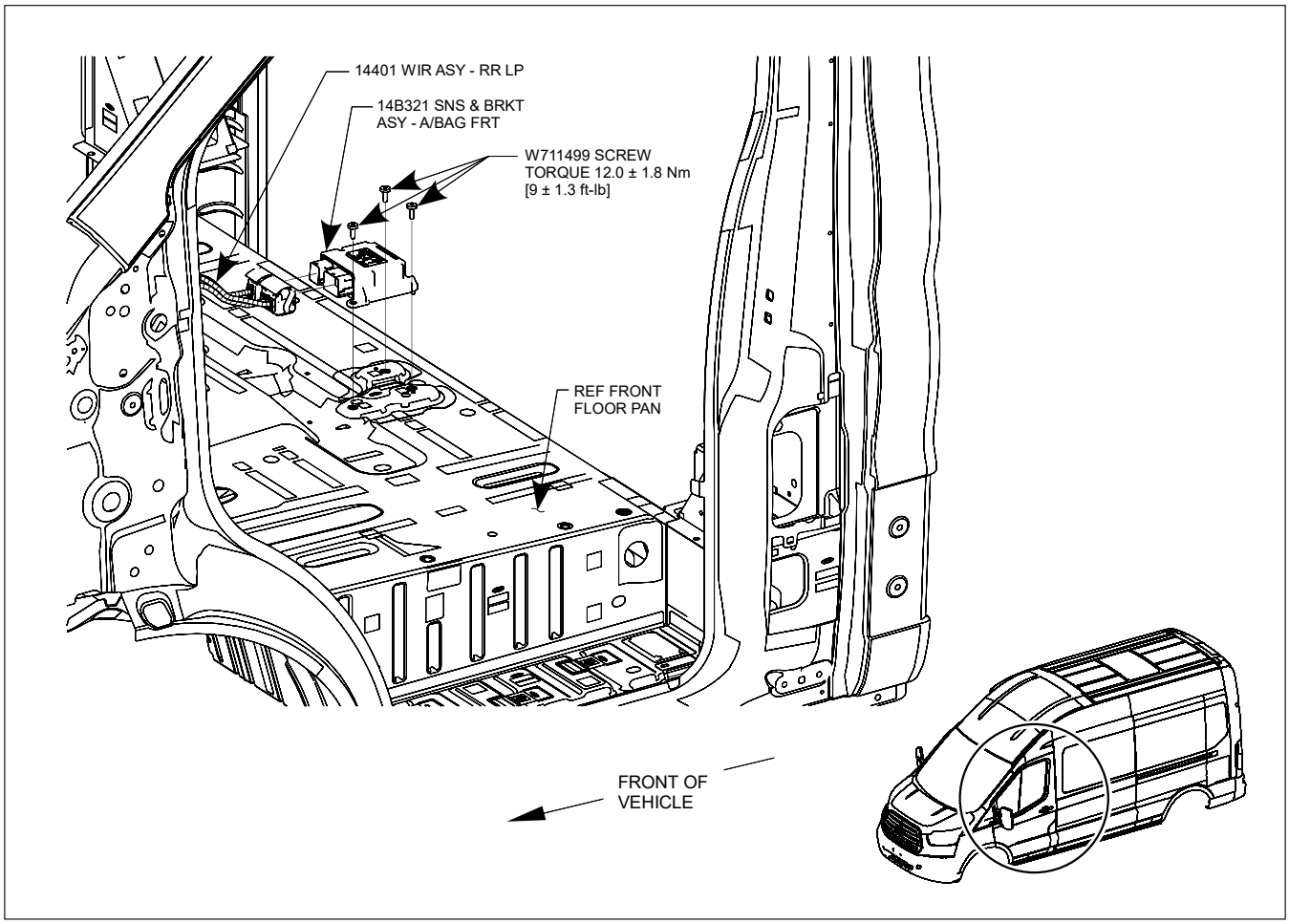

14401 WIR ASY - RR LP
14B321 SNS & BRKT ASY - A/BAG FRT
W711499 SCREW TORQUE 12.0 ± 1.8 Nm [9 ± 1.3 ft-lb]
REF FRONT FLOOR PAN
FRONT OF VEHICLE

FIGURE B3 – TRANSIT RESTRAINT CONTROL MODULE MOUNTING

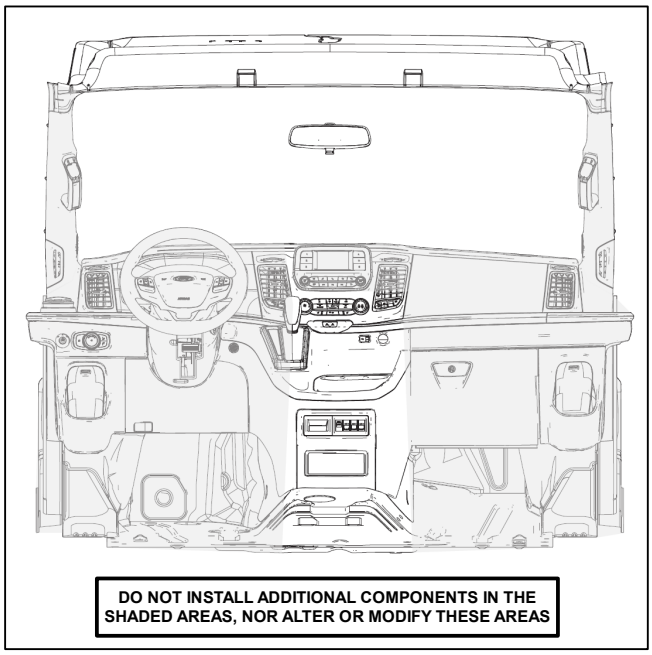


FIGURE C1 – TRANSIT OCCUPANT PROTECTION ZONE

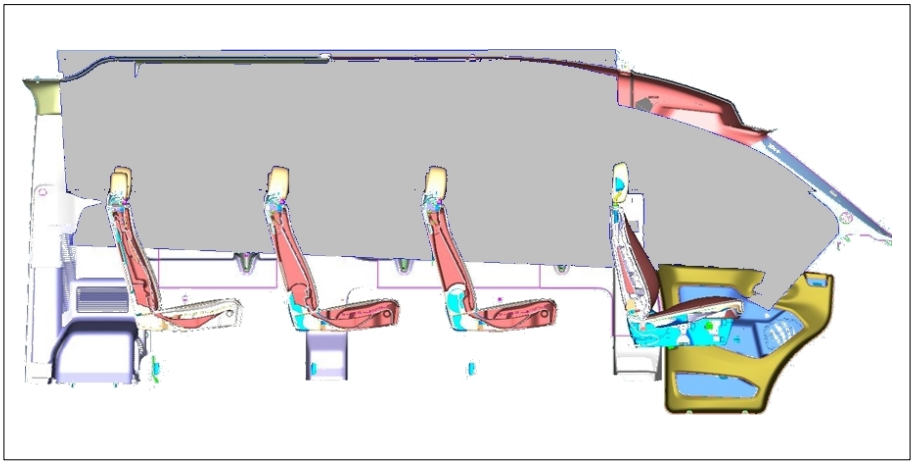


FIGURE C2 – TRANSIT OCCUPANT PROTECTION ZONE (TYPICAL)

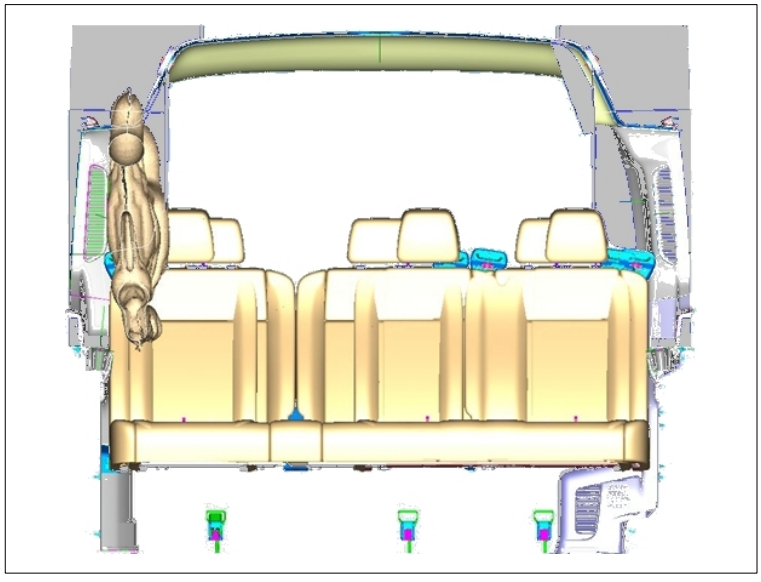


FIGURE C3 – TRANSIT OCCUPANT PROTECTION ZONE

209 The statements below are applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 209, Seat Belt Assemblies, if:

- No alterations or replacements are made to the seat belt assemblies and attaching hardware.
- No action is taken that would impair the integrity of the seat belt system provided.

Any seat belt assemblies added to a vehicle must conform to the requirements of this Standard.

209 Canadian Requirements:

The preceding statements for FMVSS 209 are appropriate compliance representations for CMVSS 209, Seat Belt Assemblies, if this incomplete vehicle was manufactured for sale or use in Canada.

210 The statements below are applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 210, Seat Belt Assembly Anchorages, if:

- No alterations are made to the front seat belt anchorages, front seat belt assemblies, floor pan, floor pan reinforcements, or body mounts.
- No window or roof modifications are completed on vehicle.

The incomplete Cargo Van, Passenger Van, Cutaway or Chassis Cab must have a seat belt anchorage system installed for each additional designated seating position that conforms to the applicable requirements of this Standard.

The incomplete Cargo Van or Passenger Van may have additional seat belt anchorages for designated seating positions other than the front driver and passenger seats. Also, Cutaway vehicles may have additional seat belt anchorages for designated seating positions on optional seats not provided on incomplete vehicles. These locations apply to specific hardware and designated seating positions used in Ford completed vehicles. If these anchorages are used without the appropriate Ford seats, seat belt systems, and hardware, Ford Motor Company makes no representation as to conformity with this Standard.

210.1 Canadian Requirements:

The statements below are applicable to buses with a GVWR of 4536 kg [10,000 lb] or less, and to school buses:

This vehicle, when completed, will conform to Standard 210.1, User-Ready Tether Anchorages for Restraint Systems and Booster Seats, if:

- No alternations are made to the front passenger seat tether anchorages and access to the anchorages is not restricted; the front passenger seat, its anchorages, the floor pan and its reinforcements are not altered; and no seats are added.

Because the addition of seats would change compliance with this Standard, Ford Motor Company makes no representations as to conformity with this Standard for any vehicle that has seats added by intermediate or final stage manufacturers.

210.2 Canadian Requirements:

The statements below are applicable to buses with a GVWR of 4536 kg [10,000 lb] or less, and to school buses:

This vehicle, when completed, will conform to Standard 210.2, Lower Universal Anchorage Systems for Restraint Systems and Booster Seats, if:

- No alterations are made to the front passenger seat and no seats are added.

Because the addition of seats would change compliance with this Standard, Ford Motor Company makes no representations as to conformity with this Standard for any vehicle that has seats added by intermediate or final stage manufacturers.

212/219 NOTE

The terms “body” or “body structure,” in the 212 and 219 statements that follow, include any equipment permanently attached to that body or body structure installed by the subsequent stage manufacturer as well as the basic body or body structure.

212/219 INFORMATION

Refer to the Transit Body Builders Layout Book on the web at https://fordbbas.com under "Publications" for Second Unit Body attachment information that may aid in designing second unit bodies and their attachments to be compatible with Transit vehicles.

212/219 The statements below are applicable to all incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

This vehicle, when completed, will conform to Standard 212 Windshield Mounting, and Standard 219, Windshield Zone Intrusion, if:

- The following windshield system components, related structural components, and hardware, as installed by Ford Motor Company, are not removed, relocated, altered, or modified in any way except as specified in this manual:
  - Windshield and windshield mounting system
  - Cab and front end structural components including the roof, pillars, cowl, cowl reinforcements, hood, doors, fenders, hood restrictors and apron reinforcements, and unibody frame and frame reinforcements
  - Radio antenna and air cleaner assembly
  - Doors and hood mounting, hinging, and latching systems
  - Hood ornamentation
  - Bumper and bumper mounting system
- No alteration or modification made to the incomplete vehicle as manufactured by Ford Motor Company and no components or structure installed by a subsequent stage manufacturer results in any loss of windshield retention (as defined in Standard 212) or any penetration of the inner surface of the windshield or intrusion into the protected zone (as defined in Standard 219) when the vehicle is impacted in any manner specified by applicable provisions of Standard 212 or Standard 219.
- The completed vehicle’s Unloaded Vehicle Weight does not exceed the value designated in Table G corresponding to the vehicle's model and wheelbase.

213 The statement below is applicable to all incomplete vehicle types:

Conformity with Standard 213, Child Restraint Systems, cannot be determined based upon the components supplied on the incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard. Any child restraint system that is added or incorporated into the design of a designated seating position must conform to the requirements of this Standard.

214 The statements below are applicable to all incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

This vehicle, when completed, will conform to Standard 214, Side Impact Protection (Dynamic vehicle to pole requirements), if:

- No alterations, modifications, or replacements are made to all installed trim, headliner, doors, surrounding door and body structure, door hinges, door latches, door strikers, roof structure or any attaching hardware as provided by Ford Motor Company.
- The airbag Supplemental Restraint System (side airbags, seats, canopy air curtain) as installed by Ford Motor Company is not removed, relocated, modified nor altered. See Figures C1, C2 and C3.
- The seat belts, seat belt warning system, and attaching hardware installed by Ford Motor Company are not removed, relocated, modified nor altered.
- The sensor system (sensors, RCM, wiring) and attaching hardware installed by Ford Motor Company are not removed, relocated, modified nor altered.
- No actions are taken which would impair the integrity and functions of the airbags, side curtains, and seat belts. This includes installation of bulkheads or other equipment within the airbag deployment zones. See Figures C1, C2 and C3. CAD for airbag deployment zones may be requested through Ford BBAS.
- The body and all substructure as installed by Ford Motor Company is not removed, relocated, modified nor altered.

Because deletion of frontal passenger, driver/passenger side airbags, and curtain airbags or the addition of seats would change compliance with this Standard, Ford Motor Company makes no representations as to conformity with this Standard for any vehicle that has airbags deleted by order option or seats added by intermediate or final stage manufacturers.

NOTE:

The regulatory text of FMVSS 214 states:

"***Modified roof*** means the replacement roof on a motor vehicle whose original roof has been removed, in part or in total."

Cutaway vehicles 4536 kg [10,000 lb] GVWR or less ordered with the Cutaway Roof Modification Required (87C) optional sales code are produced without side airbags and side-curtain airbags. Roof modification by the final stage manufacturer is required to meet the criteria for application exception/exclusion to FMVSS 214, Side Impact Protection, Section S9 Vehicle-To-Pole Requirements on vehicles 4536 kg [10,000 lb] GVWR or less ordered with optional sales code 87C.

214 The statements below are applicable to the following vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

- **Incomplete Cargo Van or Passenger Van**

This vehicle, when completed, will conform to Standard 214, Side Impact Protection (Static), if:

- No alterations, modifications, or replacements are made to the door, surrounding door and body structure, door hinges, door latches and strikers, or any attaching hardware as provided by Ford Motor Company.
- The incomplete Cargo Van or Passenger Van sheet metal structure is not modified.

Compliance to this Standard (Static) for side doors on the incomplete vehicle is shown in the following table:

Static Side Door FMVSS 214 Compliance		
Side Door Configuration	**Glazed (Window)**	**Unglazed (No window)**
Passenger side sliding door; All roof heights	Yes	No representation
Driver side sliding door; Medium/High roof Cargo Van	No representation	No representation
Hinged cargo doors; Low roof only	Yes	Yes

214 The statements below are applicable to the following vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

- **Chassis Cab or Cutaway**

This vehicle, if equipped with both front doors as manufactured by Ford Motor Company when completed, will conform to Standard 214, Side Impact Protection (Static), if:

- No alterations, modifications, or replacements are made to the door, surrounding door and body structure, the entire roof structure, door hinges, door latches and strikers, or any attaching hardware provided by Ford Motor Company.
- This vehicle, if equipped with a driver-side door only when completed, will conform to Standard 214, Side Impact Protection (Static), for that door only if no alterations, modifications, or replacements are made to the door, surrounding door and body structure, the entire roof structure, door hinges and strikers, or any attaching hardware provided by Ford Motor Company.

Any side door and surrounding door and body structure added to this vehicle, if a designated seating position is less than 254 mm [10 in] inboard of that door, must conform to the requirements of this standard.

216a The statements below are applicable to the following incomplete vehicle type with a GVWR of 4536 kg [10,000 lbs] or less. (Note: School Buses are exempt from the requirements):

- **Incomplete Cargo Van or Passenger Van**
- **Chassis Cab**

This vehicle, when completed, will conform to Standard 216a, Roof Crush Resistance, if:

- No alterations are made to the following components as installed by Ford Motor Company:
  - Cab and front end structural components including the cowl, cowl reinforcements, and front hinge pillar.
  - A, B, and C pillars complete, and roof rail reinforcements.
  - Front header and B pillar roof bow.
  - Front and side door structure, door hinges or roller system, and door latching system.
  - Spot welds joining the stated parts.
  - Windshield and windshield mounting system.
- The Maximum Unloaded Vehicle Weight (MUVW) does not exceed (Ref: Table G):
  - 3629 kg [8000 lb] for Low Roof height.
  - 3674 kg [8100 lb] for Medium and High Roof height.
  - 3856 kg [8500 lb] for Chassis Cab model.

217 The statements below are applicable to the incomplete Cargo Van or Passenger Van when completed as a bus (not school bus):

This vehicle, when completed, will conform to Standard 217, Bus Emergency Exits and Window Retention and Release, Section 5.1, if no alterations, modifications, or replacements are made to the doors, window glazing materials, window mounting systems, or the surrounding door structure as provided by Ford Motor Company. Ford Motor Company makes no representation as to compliance to any other portion of this Standard.

Any windows, doors, additional components, or emergency exits and required emergency exit labels added to this vehicle by the final stage manufacturer must meet the requirements of this Standard.

Note: Required emergency exit labels are not provided by Ford Motor Company on incomplete vehicles.

Note: The power sliding door does not meet the emergency exit requirements of FMVSS 217.

217 The statement below is applicable to the Transit Cutaway when completed as a bus (including school bus):

Conformity with Standard 217, Bus Emergency Exits and Window Retention and Release, cannot be determined based upon the components supplied on this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard other than that the front door windows will comply with the Section 5.1 requirements of this Standard if no modifications, alterations, or replacements are made to the window glazing materials, window mounting system, or the surrounding door structure as provided by Ford Motor Company.

219 Canadian Requirements:

The preceding statements for FMVSS 217, Bus Emergency Exits and Window Retention and Release, are appropriate compliance representations for CMVSS 217, Bus Window Retention, Release and Emergency Exits, when a vehicle is completed as a bus (not school bus) and if this incomplete vehicle was manufactured for sale or use in Canada. In such a case, CMVSS 217 paragraphs (2) and (2.1) are substituted for the reference to FMVSS 217 Section 5.1. When a Transit Cutaway is completed as a school bus, Ford Motor Company makes no representation as to conformity to this Standard.

219 See combined statements under "212/219" for all vehicle types.

220 The statement below is applicable to the Transit Cutaway when completed as a bus (including school bus):

The Cutaway body structure as manufactured by Ford, does not meet the strength requirements of FMVSS 220, School Bus Rollover Protection; accordingly Ford Motor Company makes no representation as to conformity of the completed vehicle with this Standard.

221 The statement below is applicable to the Transit Cutaway when completed as a bus (including school bus):

This vehicle when completed, will conform to Standard 221, School Bus Body Joint Strength, if:

- No alterations or modifications are made to the body panel joints as manufactured by Ford Motor Company from the forwardmost point of the windshield rearward.
- The passenger first row seating reference point is located 762.0 mm [30.00 inch] or more, rearward of the back of the Cutaway body.

Any additional maintenance panels or body panel joints that are added to this vehicle must comply with the requirements of this Standard.

222 The statement below is applicable to the Transit Cutaway when completed as a bus (including school bus):

Conformity with Standard 222, School Bus Passenger Seating and Crash Protection, cannot be determined based upon the components supplied on this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard.

225 The statement below is applicable to the Transit Cutaway when completed as a bus (including school bus) with a GVWR of 4536 kg [10,000 lb] or less:

This vehicle, when completed, will conform to Standard 225, Child Restraint Anchorage Systems, if:

- No alterations are made to the front passenger seat tether anchorages and access to the anchorages is not restricted, and no alterations are made to the seat assemblies, their anchorages, the floor pan, or floor pan reinforcements, and no seats are added.

Because the addition of seats would change compliance with this Standard, Ford Motor Company makes no representations as to conformity with this Standard for any vehicle that has seats added by intermediate or final stage manufacturers.

226 The statement below is applicable to the following incomplete vehicle types with a GVWR of 4536 kg [10,000 lb] or less:

- **Chassis Cab**
- **Incomplete Cargo Van**
- **Incomplete Passenger Van without RV Prep Package (47D)**
- **Incomplete Passenger Van with RV Prep Package (47D) with optional High Strength Laminated Glass (92A)**

This vehicle is equipped with Standard 226, Ejection Mitigation, compliant hardware from the forwardmost point of the windshield rearward and will conform to this Standard if:

- No alterations, modifications, or replacements are made to any installed seats, trim, headliner, windows, window surrounding body structure, window treatments including grill covers, doors, surrounding door and body structure, door hinges, door latches, door strikers, roof structure or any attaching hardware as provided by Ford Motor Company.
- The airbag Supplemental Restraint System (side airbags, seats, canopy air curtain) as installed by Ford Motor Company is not removed, relocated modified nor altered.
- The seat belts, seat belt warning system, and attaching hardware installed by Ford Motor Company are not removed, relocated, modified nor altered.
- The sensor system (sensors, Restraints Control Module, wiring) and attaching hardware installed by Ford Motor Company are not removed, relocated, modified nor altered.
- No actions are taken which would impair the integrity and functions of the airbags, curtains, seat belts, windows and bulkheads.
- The body and all substructure including bulkheads aft of occupant seating, as installed by Ford Motor Company, is not removed, relocated, modified nor altered.

Because addition or deletion of frontal passenger, driver/passenger side airbags, curtain airbags, seats, bulkheads, doors or windows would change compliance with this Standard, Ford Motor Company makes no representations as to conformity with this Standard for any vehicle that has airbags, seats, bulkheads, doors or windows deleted by order option, or added or deleted by intermediate or final stage manufacturers.

NOTE:

The regulatory text of FMVSS 226 states:

"***Modified roof*** means the replacement roof on a motor vehicle whose original roof has been removed, in part or in total, or a roof that has to be built over the driver's compartment in vehicles that did not have an original roof over the driver's compartment."

Cutaway vehicles 4536 kg [10,000 lb] GVWR or less ordered with optional sales code 87C are produced without side airbags and side-curtain airbags. Roof modification by the final stage manufacturer is required to meet the criteria for exception/exclusion to FMVSS 226, Ejection Mitigation, Section S2 Application on vehicles 4536 kg [10,000 lb] GVWR or less ordered with optional sales code 87C.

226 The statement below is applicable to the following incomplete vehicle type with a GVWR of 4536 kg [10,000 lb] or less:

- **Cutaway**
- **Incomplete Passenger Van with RV Prep Package (47D) without optional High Strength Laminated Glass (92A)**

Conformity with Standard 226, Ejection Mitigation, cannot be determined based upon the components supplied on this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard.

226 Canadian Requirements:

The regulatory text of CMVSS 226, Ejection Mitigation, states:

"***Modified roof*** *means a roof on a vehicle that has been modified in whole or in part, or a roof added to a vehicle that did not have an original roof. (toit modifié)*"

In the case of a vehicle with a modified roof, a fixed security partition, or a seat that has been modified for a disabled person, which does not meet the performance requirements of Ejection Mitigation, a label must be provided in the vehicle and information included in the owner manual. See CMVSS 226 Sections 3 through 7 for details.

301 The statements below apply to all incomplete vehicle types:

- If a fuel line is to be disconnected, refer to the appropriate Ford Service Manual for proper removal and installation procedures.
- When welding near fuel system components, all metallic components must be adequately shielded and protected from heat or weld splatter. All non-metallic components must be removed.

NOTE: Nylon Fuel Tubes

Some incomplete vehicles are equipped with nylon fuel tubes. In the event that the tubes require repair or replacement, only Ford approved parts or their equivalents should be used.

301 NOTE

The terms “body” or “body structure”, in the Standard 301 statements that follow include not only the basic body or body structure but also any equipment permanently attached to that body or body structure installed by the subsequent stage manufacturer.

The Unloaded Vehicle Weight of the completed vehicle may significantly affect its capability to meet the requirements of FMVSS 301, Fuel System Integrity. Completed vehicles manufactured by Ford Motor Company that are tested to demonstrate compliance with FMVSS 301 are loaded pursuant to S7.1.6 of the Standard. The test weights of these vehicles comprise the Unloaded Vehicle Weights including the weights of all available regular production options plus the loads specified by S7.1.6. These test weights are less than the respective designated Gross Vehicle Weight Ratings. In addition to the following specific statements, refer to the Design Recommendation section of the *Ford Truck Body Builders Layout Book* for fuel system information to assist in designing fuel systems and to the Second Unit Body Mounting section for SUB attachment recommendations.

301 The statements below are applicable to the following incomplete vehicle types if the vehicle GVWR is 4536 kg [10,000 lb] or less:

- **Incomplete Cargo Van or Passenger Van**

This vehicle, when completed, will conform to Standard 301, Fuel System Integrity, if:

- The following fuel system components, as installed by Ford Motor Company, are not removed, relocated, altered, or modified in any way:
  - Fuel tank and attachment hardware, including sending unit, vapor valve, fuel tank shield and in-tank electric fuel pump (all gasoline engine applications), and OBD II pressure transducer
  - Easy Fuel® capless fuel filler, pipe(s), hose(s), any provided protective wrap, and attachment hardware
  - Fuel lines, routing, and attachments
  - Vapor lines and carbon canister (gasoline engine only)
  - Fuel pump
  - Fuel filter
- No other alteration or modification made to the incomplete vehicle, as manufactured by Ford Motor Company, and no other components or structure installed by a subsequent stage manufacturer result in penetration (especially added fasteners pointed downward towards the fuel tank or other fuel system components), separation, or other damage to the fuel system or any portion thereof when the vehicle is tested in any manner specified by applicable provisions of Standard 301.
- The completed vehicle’s Unloaded Vehicle Weight does not exceed the value designated in Table G for Transit corresponding to the incomplete vehicle’s model and wheelbase.

301 *(Continued Next Page)*

301 *(Continued)*

301 The statements below are applicable to the following incomplete vehicle types:

- **Cutaway completed as a School Bus or Multifunction School Activity Bus (MFSAB)**
- **Chassis or Cutaway if the GVWR is 4356 kg [10,000 lb] or less**

This vehicle, when completed, will conform to Standard 301, Fuel System Integrity, if:

- The following fuel system components, as installed by Ford Motor Company, are not removed, relocated, altered, or modified in any way except as specified in the following representations:
  - Fuel tank and attachment hardware, including sending unit, vapor valve, fuel tank shield, fuel tank surface patch, pressure transducer and in-tank electric fuel pump
  - Easy Fuel® capless fuel filler, pipe(s), hose(s), any provided protective wrap, and attachment hardware
  - Fuel lines, routing, and attachments
  - Vapor lines and carbon canister (gasoline engine only)
  - Fuel pump
  - Fuel filter
  - Urea storage and delivery system (diesel engine only)
- The body installed by a subsequent stage manufacturer and the Ford installed fuel system components are located and mounted as follows (Ref: Figure D):
  - The body is hard-mounted securely to all available inboard and outboard frame hole locations, however, fasteners are not required in the 2nd and 3rd rows of LH & RH frame rail inboard holes alongside the fuel tank and exhaust muffler, using Ford recommended 25mm head-size flange M10 Grade 10.9 W520113-S442 nuts & W703776-S442 bolts, or equivalent, and is so designed that when the completed vehicle is tested in any manner specified by applicable provisions of Standard 301:
    a) body components and attaching hardware do not contact any fuel system component at any time, and
    b) body system deformation or movement relative to the frame does not cause any fuel system component to be penetrated, disconnected, or otherwise damaged.
  - If the 2nd and/or 3rd row RH frame rail inboard attachment points over the fuel tank are used, those bolts should be installed pointing UP away from the fuel tank.
  - The rear end of the body (excluding the rear bumper) installed by a subsequent stage manufacturer does not extend beyond (overhang) the rear edge of the vehicle frame or frame extension. Any extension of the vehicle frame must be constructed and attached so as to perform as a continuation of the vehicle frame when the completed vehicle is tested in any manner specified by applicable provisions of Standard 301.
- No other alteration or modification made to the incomplete vehicle as manufactured by Ford Motor Company and no other components or structure installed by a subsequent stage manufacturer result in penetration, separation, or other damage to the fuel system or any portion thereof when the vehicle is tested in any manner specified by applicable provisions of Standard 301.
- The completed vehicle's Unloaded Vehicle Weight corresponding to the model and wheelbase does not exceed the value designated in Table G.

TABLE G

MAXIMUM UNLOADED VEHICLE WEIGHT (UVW) FOR INCOMPLETE VEHICLES WHEN COMPLETED (1)

(Does Not Apply To Vehicles Over 4536 kg [10,000 lb] GVWR)

Model	Wheelbase mm [inches]	Maximum Unloaded Vehicle Weights kg [pounds]
Cargo Van & Passenger Van	3300 [130]	Low Roof: 3629 [8000]
	3750 [148]	Medium/High Roof: 3674 [8100]
Chassis Cab & Cutaway	3504 [138]	3909 [8600]
	3954 [156]	
	4522 [178]	

(1) Maximum unloaded vehicle weight values shown in this table are limits for purposes of F/CMVSS conformity only. See Emission Certification information of this manual for possible additional weight restrictions to meet emission requirements.

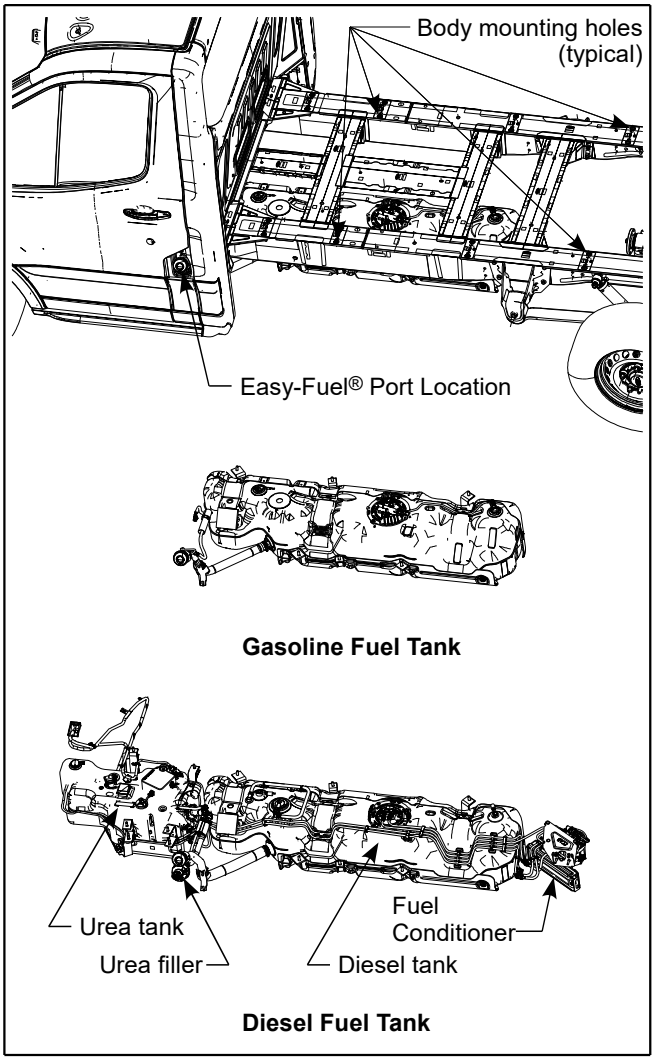


FIGURE D – TRANSIT FUEL TANKS

301 *(Continued Next Page)*

301 *(Continued)*

301 The statements below are an addendum of Standard 301 requirements applicable to the following incomplete vehicle type:

- **Cutaway completed as a School Bus or Multifunction School Activity Bus (MFSAB)**

- The rear bumper is to be made from 4.7mm [0.187”] HRLC steel or equivalent strength and meet the National School Transportation Specifications and Procedures (NSTSP) 2010 requirements.
- The floor structure of the second unit body requires a minimum of three (3) crossmembers over the fuel tank as shown in Figure E.
- Crossmembers must be of a minimum cross section and material as shown in Figure E, or a cross section and material of an equivalent or greater strength.
- No underbody components are packaged in the shaded area shown in Figure F.

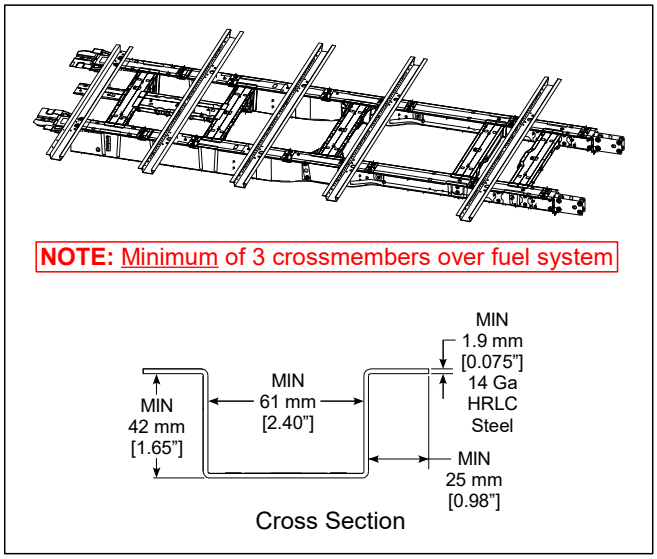


FIGURE E – CROSSMEMBERS FOR SCHOOL BUS & MULTIFUNCTION SCHOOL ACTIVITY BUS (MFSAB)

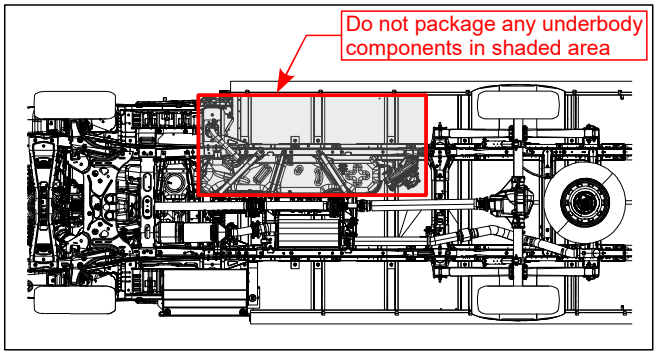


FIGURE F – UNDERBODY NO-PACKAGE ZONE FOR SCHOOL BUS & MULTIFUNCTION SCHOOL ACTIVITY BUS (MFSAB)

301 Canadian Requirements:

The Canadian loading requirements are provided in Section 3.3 of **Test Method 301 Fuel System Integrity**, revised: February 8, 2001, and should be substituted wherever references to FMVSS 301, Section 7.1.6, loading requirements have been made in the statements of conformity for Standard 301.

301.1 The statement below is applicable to all incomplete vehicle types:

This incomplete vehicle does not comply with CMVSS Standard 301.1, LPG Fuel System Integrity. Ford Motor Company makes no representation as to conformity with this Standard.

301.2 The statement below is applicable to all incomplete vehicle types:

This incomplete vehicle does not comply with CMVSS Standard 301.2, CNG Fuel System Integrity. Ford Motor Company makes no representation as to conformity with this Standard.

302 The statement below is applicable to all incomplete vehicle types:

This vehicle, when completed, will conform with Standard 302, Flammability of Interior Materials, if no alterations are made to those components covered by the Standard which are installed by Ford Motor Company and all components covered by Standard 302, which are added to the incomplete vehicle by subsequent stage manufacturers meet the flammability requirements of the Standard.

303 U.S. Requirements:

The statement below is applicable to any School Bus Prep Package regardless of GVWR and to any other incomplete vehicle type if the GVWR Is 4536 kg [10,000 lb] or less:

This incomplete vehicle does not comply with Standard 303, Fuel System Integrity of Compressed Natural Gas Vehicles. Ford Motor Company makes no representation as to conformity with this Standard.

304 U.S. Requirements:

The statement below is applicable to all incomplete vehicle types:

This incomplete vehicle does not comply with Standard 304, Compressed Natural Gas Fuel Container Integrity. Ford Motor Company makes no representation as to conformity with this Standard.

305 The statement below is applicable to all incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

This incomplete vehicle does not comply with Standard 305, Electric-Powered Vehicles: Electrolyte Spillage and Electrical Shock Protection; Ford Motor Company makes no representation as to conformity with this Standard

403 The statement below is applicable to all incomplete vehicle types:

This incomplete vehicle does not comply with Standard 403, Platform Lift Systems for Motor Vehicles. Ford Motor Company makes no representation as to conformity with this Standard.

404 The statement below is applicable to all incomplete vehicle types:

This incomplete vehicle does not comply with Standard 404, Platform Lift Installations in Motor Vehicles. Ford Motor Company makes no representation as to conformity with this Standard.

Part 393.67 Parts and Accessories Necessary for Safe Operation – Liquid Fuel Tanks

The fuel tank provided on the Cargo Van, Passenger Van, Chassis Cab and Cutaway is the same fuel tank used on under 4536 kg [10,000 lb] Transit vehicles that require compliance to F/CMVSS 301, therefore, it conforms to Part 393.67, Parts and Accessories Necessary for Safe Operation – Liquid Fuel Tanks, if the fuel tank as provided by Ford Motor Company is not altered on the completed vehicle.

Part 565 U.S. Requirements:

This vehicle, when completed, will conform to Part 565, Vehicle Identification Number (VIN) Requirements, if the vehicle identification number printed on the label affixed to the cover of this manual is mounted and displayed in accordance with the requirements of this Standard.

Part 565.13 The statement below is applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Part 565.13, General Requirements, if the Vehicle Identification Number tag mounted on the top of the instrument panel is not removed, altered, or modified and no actions are taken by the subsequent stage manufacturer that would obstruct the readability of the Vehicle Identification Number tag mounted on the top of the instrument panel.

Part 567 / CMVSR Section 6.6

The statement below is applicable to all incomplete vehicle types:

This incomplete vehicle does not comply with the intermediate and final stage manufacturer requirements of Part 567 - Certification, nor the Canadian Motor Vehicle Safety Regulations, Section 6.6 – Final-stage Manufacturer's Compliance Label. It is the responsibility of the intermediate and final stage manufacturers to provide additional labeling to meet these requirements. Ford Motor Company makes no representation as to conformity.

1106 Canadian Requirements:

The statements below are applicable to all incomplete vehicle types with GVW ratings of 4536 kg [10,000 lb] or less:

These vehicles, when completed, will conform to Standard 1106, Noise Emissions, Section 2, if noise control devices or elements of design are not modified, removed, or rendered inoperative. Examples of such devices or elements of design are:

- Fender apron absorbers, fender apron barriers, underbody noise shields and acoustic absorption material.
- Engine speed governor or electronic control intended to control maximum engine speed.
- Engine air duct, air intake choke or silencer, air cleaner and air cleaner element.
- Exhaust system components including the catalyst inlet pipe, muffler, outlet pipe, resonator and diffuser.
- Engine cooling fan and cooling fan clutch.

1106 Canadian Requirements:

The statements below are applicable to all incomplete vehicle types with GVW ratings of more than 4536 kg [10,000 lb]:

These vehicles, when completed, will conform to Standard 1106, Noise Emissions, Section 4, if noise control devices or elements of design are not modified, removed, or rendered inoperative. Examples of such devices or elements of design are:

- Fender apron absorbers, fender apron barriers, underbody noise shields and acoustic absorption material.
- Engine speed governor or electronic control intended to control maximum engine speed.
- Engine air duct, air intake choke or silencer, air cleaner and air cleaner element.
- Exhaust system components including the catalyst inlet pipe, muffler, outlet pipe, resonator and diffuser.
- Engine cooling fan and cooling fan clutch.

CANADIAN VEHICLES

(Vehicles to be completed for sale or use in Canada)

VEHICLE IDENTIFICATION

Refer to the “Vehicle Description” section of this manual for additional information. Incomplete vehicles produced by Ford Motor Company require, for certain applications, optional Prep Packages or trim codes which are listed on the Completed Vehicle Types chart.

DAYTIME RUNNING LAMP (DRL)

Compliance representations for CMVSS 108, Lighting System and Retroreflective Devices, are in the “Statements of Conformity” section of this manual.

CANADIAN RADIO FREQUENCY INTERFERENCE (RFI) INFORMATION

All vehicles powered by spark ignition engines (e.g.: gasoline, natural gas, or propane engines) and manufactured in Canada or for sale or use in Canada are subject to the Canadian “Regulations for the Control of Interference to Radio Reception” per Interference-Causing Equipment Standard (ICES-002) and applicable test method according to “CAN/CSA-C108.4-06”. Violation of these regulations is punishable by fine or imprisonment. This Ford-built incomplete vehicle was designed and manufactured to be capable of meeting the regulatory requirements or such modifications thereof as may have been authorized by the Department of Communications. However, because Ford Motor Company has no control over how this incomplete vehicle is completed by subsequent stage manufacturers, Ford Motor Company does not represent that the completed vehicle incorporating the Ford-built components will comply with applicable requirements.

The following information is supplied to subsequent stage manufacturers to help them avoid increasing the RFI emissions of this vehicle in the course of completing it.

For any completed vehicle, additional measures may be needed to adequately suppress RFI emissions. Affected components could include spark plugs, ignition wires, ignition coils, ground straps, ignition component shields, accessory drive belts, instrument voltage regulator suppressor assembly, and ignition coil suppressor assembly.

More specifically:

- All components required to suppress RFI emissions, which are removed during service, repair, or completion of the vehicle, must be reinstalled in the manner in which they were installed by Ford Motor Company.
- Shields on ignition coils must remain installed.
- Replacement spark plugs, ignition wires, and ignition coils must be equivalent in their RFI suppression properties to original equipment.
- Electrical grounds on all components must be retained.
- Metallic components installed on the body or chassis must be grounded to the chassis.
- Electrical circuits added to the vehicle must not be installed near the high voltage ignition components.
- Only “static conductive” accessory drive belts should be used. Fan, water pump, power steering, and other belts should be of the OEM type or equivalent that will not build up a static electrical charge.
- Engine compartment wiring must not be rerouted in any manner.
- The Powertrain Control Module (PCM) must not be relocated from the position as installed by Ford Motor Company.

Additional guidance for installing two-way mobile radios can be found via the web at www.fordemc.com/docs/download/Mobile_Radio_Guide.pdf.

EMISSION CERTIFICATION INFORMATION

CAUTION:

U.S.:

Vehicles are emission certified for registration in specific areas of the United States. For example, **vehicles certified and labeled for sale in California can not be sold in the states that require Federally certified vehicles and vehicles certified to Federal standards can not be sold in states that require California certified vehicles.** It is the subsequent stage manufacturer's responsibility to purchase a vehicle certified for the state/area in which the vehicle will be sold. EPA has stated that under certain circumstances they will not enforce these requirements. For further guidance consult EPA's "policy on cross border sales of California vehicles."

CANADA:

If the completed vehicle is intended for sale or use in Canada, the intermediate or final stage manufacturer must insure that the incomplete vehicle is ordered through a Canadian dealer or is ordered from Ford Motor Company with the appropriate Canadian market option code. Failure to do so may result in an incomplete vehicle that is built with an emissions system and labeling that are not in compliance with the requirements of the Canadian Environmental Protection Act.

IMPORTANT:

It is the responsibility of the body builder, installer, or subsequent stage manufacturer to ensure that the maximum completed vehicle curb weight and frontal area specified by Ford Motor Company are not exceeded. If these restrictions are exceeded, or if the vehicle is modified such that it will not comply with applicable emission standards throughout its useful life, the body builder, installer, or subsequent stage manufacturer will be considered a manufacturer for purposes of complying with U.S. Federal, California, or Canadian exhaust and evaporative emission requirements, and Federal fuel economy standards, labeling, and certain other requirements.

IMPORTANT:

For purposes of Government Regulation, a body builder, installer, or any subsequent manufacturer may be considered a manufacturer.

EMISSIONS CLASSIFICATION

Vehicles ordered with the RV Prep package on LWB (12/15 passenger) and LWB-E "Jumbo" (15 passenger) models of the Transit Wagon are designed for configurations that seat more than 9 passengers rearward of the driver's seat. These vehicles are classified as Heavy-Duty trucks, not Medium Duty Passenger Vehicles (MDPVs). As defined in 40 CFR 86.1803-01, MDPVs do not include vehicles "designed for more than 9 persons in seating rearward of the driver's seat."

FRONTAL AREA AND WEIGHT RESTRICTIONS

Completed Transit vans and wagons certified to California > 3856 kg [8500 lb] Medium Duty Vehicle (MDV) protocol may have curb weight and frontal area restrictions shown on the VECI label, which is located in the engine compartment. Modifiers that add weight to a vehicle or increase the frontal area of a MDV vehicle, prior to sale and delivery to the ultimate purchaser, may be required to re-certify the vehicle for compliance with applicable Federal or California emission standards.

Some heavy-duty incomplete vehicles are certified using chassis certification protocol and will require vehicle weight and frontal area restrictions (to retain emission certification). If your vehicle is affected, the frontal area and unloaded vehicle weight information will be found on the VECI label.

Incomplete vehicles with engines certified using heavy-duty engine protocol are not limited by weight and frontal area restriction for exhaust emissions.

It is important that the final stage manufacturer observe vehicle restrictions from vehicle safety requirements, etc., which are located elsewhere in this manual. For additional information, review SVE Bulletins and the Transit *Body Builders Layout Book*, and if necessary, contact the Body Builder Advisory Service at https://fordbbas.com.

NOTE: Frontal area requirement includes the cab and second unit body (SUB). The completed vehicle must meet Maximum UVW weight for a GVWR of 4536 kg [10,000 lb] or less.

The Maximum Unloaded Vehicle Weight (UVW) restrictions shown in Table H and Frontal Area restrictions shown in Table J apply to completed Chassis Cab and Cutaway vehicles. Second Unit Body geometry requirements to enable enhanced frontal areas with optional packages are shown in Figure G and Figure H.

TABLE H - MAX UVW RESTRICTIONS FOR COMPLETED CHASSIS CABS AND CUTAWAYS

Transit Series [GVWR]	Engine	Drive	Max UVW (lb)
250 SRW [9070 lb]	2.0L I4 Diesel	RWD	8400
	3.5L V6 PFDi	RWD / AWD	7550
	3.5L V6 GTDi	RWD / AWD	7550
350 SRW [9500 lb]	2.0L I4 Diesel	RWD	8600
	3.5L V6 PFDi	RWD / AWD	7550
	3.5L V6 GTDi	RWD / AWD	8600
350 HD DRW [9900 - 9950 lb]	2.0L I4 Diesel	RWD	8124
	3.5L V6 PFDi	RWD / AWD	7550
	3.5L V6 GTDi	RWD / AWD	8124
350 HD DRW [10360 lb]	2.0L I4 Diesel	RWD	9140
	3.5L V6 GTDi	RWD / AWD	9140
350 HD DRW [11000 lb]	3.5L V6 GTDi	RWD / AWD	9500

VEHICLE EMISSION CONTROL INFORMATION LABEL

To meet United States Environmental Protection Agency regulations, the Vehicle Emission Control Information (VECI) label must be affixed in the engine compartment in a location that is readily visible after installation and in such a manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment that is easily detached from the vehicle.

When the VECI label is supplied, but not attached to the vehicle, it must be permanently mounted in a readily visible location to meet the preceding requirements. No components shall be installed which visibly obscure the label in any way.

For Canadian requirements, consult On-Road Vehicle and Engine Emission Regulations (SOR).

TABLE J - FRONTAL AREA RESTRICTIONS FOR COMPLETED CHASSIS CABS AND CUTAWAYS					
Transit Series [GVWR]	**Engine**	**Drive**	**Standard Max Frontal Area (No Radii Restrictions) (ft^2)**	**Optional (Order Code 15D) Enhanced FA Limitation 1 Max Frontal Area (Radii Restrictions) (1) (ft^2)**	**Optional (Order Code 15E) Enhanced FA Limitation 2 Max Frontal Area (Radii Restrictions) (2) (ft^2)**
250 - 350 SRW [9070 - 9500 lb]	3.5L V6 PFDi	RWD	60	68 (3)	-
		AWD	52	60 (3)	-
	2.0L I4 Diesel	RWD	67	75	-
	3.5L V6 GTDi	RWD	62	70	-
		AWD	59	67	-
350 HD DRW [9900 - 9950 lb]	3.5L V6 PFDi	RWD	58	68 (3)	-
		AWD	51	60 (3)	-
	2.0L I4 Diesel	RWD	66	75	-
	3.5L V6 GTDi	RWD	61	70	-
		AWD	58	67	-
350 HD DRW [10360 lb]	2.0L I4 Diesel	RWD	72	82	82
	3.5L V6 GTDi	RWD	61	70	73
		AWD	56	66	72
350 HD DRW [11000 lb]	3.5L V6 GTDi	RWD	61	70	73
		AWD	56	66	72

Notes:
(1) - Vehicles with Optional Enhanced FA Limitation 1 (Order Code 15D) completed with a frontal area greater than the Standard maximum up to the Enhanced FA Limitation 1 maximum - SUB must meet radii design requirements as shown in Figure G.
(2) - Vehicles with Optional Enhanced FA Limitation 2 (Order Code 15E) completed with a frontal area greater than the Standard maximum up to the Enhanced FA Limitation 1 maximum - SUB must meet radii design requirements as shown in Figure G.
Vehicles with Optional Enhanced FA Limitation 2 (Order Code 15E) completed with a frontal area greater than the Enhanced FA Limitation 1 maximum up to the Enhanced FA Limitation 2 maximum - SUB must meet geometry requirements as shown in Figure H.
(3) - Vehicles may be completed with a SIMPLE BOX style SUB only.

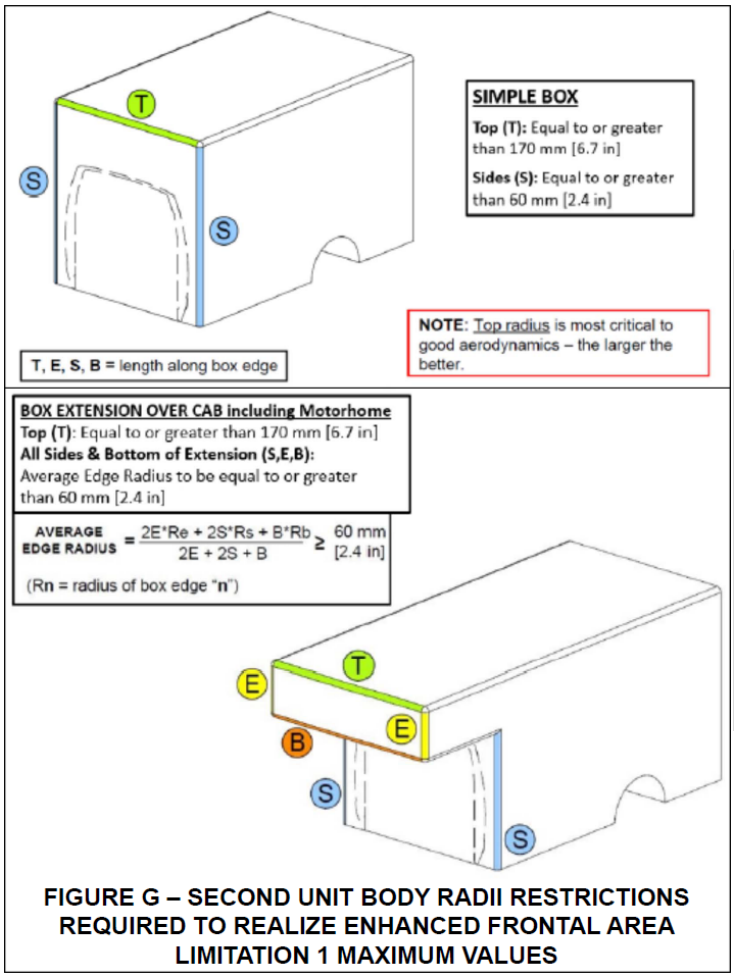

T
S
S
SIMPLE BOX
Top (T): Equal to or greater than 170 mm [6.7 in]
Sides (S): Equal to or greater than 60 mm [2.4 in]
NOTE: Top radius is most critical to good aerodynamics – the larger the better.
T, E, S, B = length along box edge
BOX EXTENSION OVER CAB including Motorhome
Top (T): Equal to or greater than 170 mm [6.7 in]
All Sides & Bottom of Extension (S,E,B):
Average Edge Radius to be equal to or greater than 60 mm [2.4 in]
AVERAGE EDGE RADIUS = (2E*Re + 2S*Rs + B*Rb) / (2E + 2S + B) ≥ 60 mm [2.4 in]
(Rn = radius of box edge "n")
T
E
E
B
S
S

FIGURE G – SECOND UNIT BODY RADII RESTRICTIONS REQUIRED TO REALIZE ENHANCED FRONTAL AREA LIMITATION 1 MAXIMUM VALUES

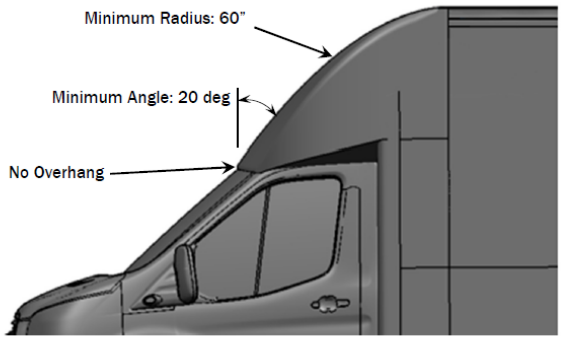


FIGURE H – SECOND UNIT BODY GEOMETRY RESTRICTIONS REQUIRED TO REALIZE ENHANCED FRONTAL AREA LIMITATION 2 MAXIMUM VALUES

EMISSION CONTROL HARDWARE

Any body builder, installer, or subsequent stage manufacturer must also assure that all emission control hardware furnished with incomplete vehicles is on the vehicle and is operational and that applicable instructions for incorporating such hardware into the completed vehicle's electrical or mechanical systems are strictly followed.

Further, to avoid any question of certification coverage, approval of any modification or use of an engine or vehicle which may alter or render inoperative any of the emission control components must be obtained from the United States Environmental Protection Agency by the manufacturer making such modification or use prior to distribution, sale, offering for sale, introduction, or delivery for introduction of the subject vehicle into U.S. commerce. Additionally, the manufacturer making such modification or use must obtain approval from the California Air Resources Board if the new vehicle will be delivered for sale or use in the State of California.

UNLEADED GASOLINE LABEL

Regulations no longer require the manufacturer to affix permanent labels reading "Unleaded Gasoline Only" or "Unleaded Fuel Only" to vehicles destined for sale in the United States or Canada. Such labels may, however, be required for vehicles sold into other markets. It is the responsibility of the body builder, installer, or any subsequent manufacturer to properly label vehicles for the market in which they are sold.

EXTERIOR NOISE

New vehicles with a gross vehicle weight rating in excess of 4536 kg [10,000 lb], with a partially or wholly enclosed operator's compartment and manufactured for use in the United States, as completed by final stage manufacturers, must comply with U.S. Environmental Protection Agency exterior noise emission regulations for medium and heavy trucks (40 CFR Part 205, Subpart B) which establish a noise emission limit of 80 dB(A). The noise label attached to incomplete chassis cab and cutaway vehicles reflects the results of noise testing of these vehicles as shipped by Ford Motor Company.

TAMPERING WITH NOISE CONTROLS

Federal law prohibits the removal or rendering inoperative by any person, other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into such vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use. Federal Law also prohibits the use of such vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

- Removal of fender apron absorbers, fender apron barriers, underbody noise shields, or acoustical absorptive material.
- Removal of or rendering inoperative the engine speed governor so as to allow engine speed to exceed manufacturer's specifications.
- Removal or modification of air duct, air intake choke or silencer, air cleaner, or air cleaner element.
- Removal of, or rendering inoperative, exhaust system components including the catalyst inlet pipe, muffler, outlet pipe, resonator, or diffuser.
- Removal of the fan shroud. Removal of or rendering inoperative the fan clutch.

New vehicles manufactured for sale in Canada must comply with applicable provisions of Canada Motor Vehicle Safety Standard 1106, Noise Emissions.

WARRANTY AND MAINTENANCE

A copy of the appropriate *Ford Truck Owners Guide and Warranty Guide* must be installed in every vehicle prior to sale to the ultimate purchaser in order to provide emission systems warranty information and maintenance schedules. It also provides, where required by EPA noise control regulations for vehicles having GVWR over 4536 kg [10,000 lb], noise emissions warranty information, instructions for maintenance, use, and repair of vehicle noise emission control systems, a maintenance record format, and list of prohibited tampering acts.

EVAPORATIVE EMISSIONS

All Federal light and heavy duty trucks and all California vehicles with gasoline engines are required to comply with evaporative emissions requirements established by the Environmental Protection Agency or the California Air Resources Board. Production fuel systems supplied on incomplete trucks manufactured by Ford Motor Company comply with these requirements. **If the subsequent stage manufacturer adds to or modifies the air intake system or fuel system in any manner, it becomes the responsibility of the modifier to assure compliance with the applicable regulations.** Refer to the Design Recommendation section of the *Ford Truck Body Builders Layout Book* for additional Fuel System Evaporative Emissions information.

MALFUNCTION INDICATOR LIGHT (MIL)

The "Malfunction Indicator Light" is used to indicate malfunctions of the engine's emission control system and certain powertrain emissions-related components. For all Transit incomplete vehicles, the MIL is Ford-installed and operational in the instrument panel.

The MIL must be located on the driver's-side instrument panel, be of sufficient illumination and location to be readily visible under all lighting conditions and shall be amber in color when illuminated. The MIL, when illuminated, shall display the phrase "Check Engine" or "Service Engine Soon". The word "Powertrain" may be substituted for "Engine" in the previous phrases. Alternatively, the ISO engine symbol may be substituted for the word "Engine" or for the entire phrase. This is a requirement for emission certification.

OZONE DEPLETING SUBSTANCE (ODS)

The Clean Air Act of 1990, Section 611 requires any product (i.e., completed vehicle) containing or manufactured with any Class I Ozone Depleting Substance on, or after, May 15, 1993 must be identified with a "clearly and conspicuously attached label."

Ford Motor Company has eliminated Class I ODS from its manufacturing processes. All Ford Truck incomplete vehicles will not have Class I ODS content.

Manufacturers, including subsequent stage manufacturers, are required to label their products if the product, including any component (whether manufactured by that manufacturer or not), contains a Class I ODS or if the manufacturer used a Class I ODS in the manufacturing of the product. If a vehicle is so affected by a Class I ODS, that information must be placed on the product warning label. See EPA regulations on wording, placement, size, and combining labels. In Canada consult the appropriate Provincial or Territorial Ministry of Environment.

CALIFORNIA FUEL VAPOR RECOVERY

California regulations require that the vehicle fuel systems be designed to accommodate a vapor recovery fueling nozzle including unobstructed access to the fill pipe. Fuel filler pipes as installed by Ford Motor Company will comply with the "Specifications For Fill Pipes and Openings of Motor Vehicle Fuel Tanks" referenced in Title 13 California Administrative Code provided no part of the aftermarket body, as installed, intrudes within a 254 mm [10 in] radius cylinder centered on the fuel filler port, with its axis parallel to the ground, starting at the outer-most surface of the Ford supplied fuel filler housing and projecting outward away from the body.

CALIFORNIA MOTOR VEHICLE EMISSION CONTROL LABEL

To meet California emission certification regulations, the Vehicle Emission Control Information (VECI) label must be welded, riveted, or otherwise permanently attached to an area within the engine compartment or to the engine in such a way that it will be readily visible to the average person after installation of the engine in a vehicle. In selecting an acceptable location, the manufacturer shall consider the possibility of accidental damage (e.g., possibility of tools or sharp instruments coming in contact with the label). The label shall be affixed in such a manner that it cannot be removed without being destroyed or defaced, and shall not be affixed to any part which is likely to be replaced during the vehicle's useful life. For motor vehicles rated at 6350 kg [14,000 lb] GVWR or less, the label shall not be affixed to any equipment which is easily detached from the vehicle. As used in these specifications, readily visible to the average person shall mean that the label shall be readable from a distance of 460 mm [18 in] without any obstructions from vehicle or engine parts (including all manufacturer available optional equipment), except for flexible parts, (e.g., vacuum hoses, ignition wires). Alternately, information required by these specifications to be printed on the label shall be no smaller than 8-point type size provided that no vehicle or engine parts (including all manufacturer available optional equipment), except for flexible parts that can be moved out of the way without disconnection, obstruct the label.

Completed vehicles for retail sale in California require a machine-readable Vehicle Identification Number (VIN) bar-code label made of paper, plastic, metal, or other permanent material which shall be affixed in a readily visible location to either the door-latch post next to the driver's seating position, the door edge that meets this door-latch post, or above the instrument panel in a location clearly visible through the lower left corner of the windshield. All incomplete vehicles will conform to this standard.

For the VECI and VIN labels, sufficient clearance shall be provided to use a non-contact barcode reading wand. For the VECI label, the label and any adhesives used shall be designed to withstand typical vehicle environment conditions in the area where the label is attached for the vehicle's total expected life. Typical vehicle environmental conditions shall include, but are not limited to, exposure to engine lubricants and coolants (e.g., gasoline, motor oil, brake fluids, water, ethylene glycol), under hood temperatures, steam cleaning, and paints or paint solvents.

HIGH ALTITUDE REQUIREMENTS

United States Environmental Protection Agency regulations do not contain unique emission certification requirements for trucks that will be sold or delivered to customers for principal use above 1,219 m [4,000 ft].

RADIO FREQUENCY INTERFERENCE (RFI)

The ignition system on your vehicle has been designed to be capable of compliance with RFI requirements established by the Canadian government. However, because Ford Motor Company has no control over how an incomplete vehicle is completed by subsequent stage manufacturers, Ford Motor Company does not represent that the completed vehicle incorporating the Ford-built components will comply with those requirements. Any ignition system component (i.e.: spark plugs, ignition wiring, coil suppressor assembly, etc.) that is replaced should be replaced by the same Ford Motor Company part number or equivalent to maintain RFI suppression.

While there are currently no RFI regulations in the United States specifically applicable to automotive ignition systems, all Ford Motor Company trucks built with an ignition system use the same or equivalent components to those supplied on Canadian vehicles.

Ford Motor Company recommends that all ignition system service be performed at a Ford authorized service facility to help hold RFI emissions levels to a minimum.

Additional RFI information is contained in the "Canadian Vehicles" section of this manual.

Devices that emit radio frequency (RF) energy such as AM/FM radios, mobile telecommunications systems (two-way radios, telephones), and radio controlled security systems are subject to the rules and regulations of the Federal Communications Communication (FCC), including 47 CFR Parts 2 and 15. Any such system installed in a vehicle should comply with those rules and should be installed only by a qualified technician. In addition, to ensure continued compliance with the FCC's regulations, RF devices must not be modified or changed in a manner not expressly approved by Ford Motor Company Mobile Communication Systems. RF devices particularly, if not properly installed, may adversely affect the operation of the vehicle. For example, such systems when operated may cause the engine to stumble or stall. In addition, such systems themselves may be damaged or their operation affected by the operation of the vehicle. (Citizens Band [CB] transceivers, garage door openers, and other transmitters whose power output is 5 watts or less, ordinarily will NOT affect vehicle operation.)

Because Ford Motor Company has no control over the operation or manufacture of such systems or their installation, Ford Motor Company cannot assume responsibility for any adverse effects or damage if this equipment is used.

Additional guidance for installing two-way mobile radios can be found via the web at www.fordemc.com/docs/download/Mobile_Radio_Guide.pdf.

EPA SPECIAL EMERGENCY VEHICLE EMISSIONS

United States Environmental Protection Agency (EPA) regulations allow unique Federal emission calibrations for ambulance and fire/rescue vehicles; these calibrations are not California Air Resources Board (CARB) approved. Vehicles ordered with the Ambulance Prep Package with EPA Special Emergency Vehicle Emissions (diesel engine only) must meet the definition of Emergency Vehicle, "an Ambulance or Fire Truck" per 40 CFR 86.1803.01 in the Federal Register.

Ford Motor Company Incomplete Vehicle Manual Supplement for Gulf Cooperation Council Markets

For Gulf Cooperation Council (GCC) markets, the additional GCC Standards Organization (GSO) and Saudi Arabia Standards Organization (SASO) standards information listed below must be considered in addition to the information contained within this Ford Motor Company Incomplete Vehicle Manual (IVM) when determining the ultimate compliance of the completed vehicle in the GCC markets.

The Statements of Conformity section pertaining to Federal Motor Vehicle Safety Standards (FMVSS) for this United States produced vehicle, as identified by the Vehicle Identification Number (VIN) on the front of the Incomplete Vehicle Manual, applies to this vehicle provided that each safety standard number statement is met by the vehicle modifier except where the following GSO and SASO compliance requirements take precedence.

GSO 34 & GSO 35 – Battery: This vehicle, when completed, will conform to GSO 34 and GSO 35 if the battery supplied by Ford Motor Company is not removed, replaced, nor altered.

GSO 36 – Frontal Impact: Vehicles with a Gross Vehicle Weight (GVW) of 4500 kg or less, and with an Unloaded Vehicle Weight (UVW) of 2500 kg or less, will comply to the steering column displacement portion only of GSO 36 if the front structure, front suspension, bumper, frame, powertrain, instrument panel, and steering column supplied by Ford Motor Company are not removed, relocated, altered nor modified. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle to GSO 36.

GSO 37 – Front and Rear Impact Strength: For vehicles less than 4500 kg GVW, this vehicle will comply to GSO 37 if fuel system and frame components supplied by Ford Motor Company are not removed, relocated, altered nor modified. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle to GSO 37.

GSO 38 – Side Impact Strength: For vehicles less than 4500 kg GVW, this vehicle will comply to GSO 38 if no alterations, modifications nor replacements are made to doors, surrounding door structure, door hinges, door latches and door strikers supplied by Ford Motor Company. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle to GSO 38.

GSO 40 – Impact Strength: For vehicles less than 4500 kg GVW, and the applicable sections of GSO 40, this vehicle will comply if the GSO 37 and GSO 38 statements above are followed. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle to GSO 40.

GSO 42 General Requirements: This vehicle, when completed, will conform to GSO 42 if the original systems supplied by Ford Motor Company such as brakes, control devices, seats, restraints systems, exhaust system, lighting equipment, speedometer, fuel system, electrical system, steering system, suspension system, and the speed warning system are not removed, replaced nor altered. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle to GSO 42.

GSO 96 & GSO 97 – Safety Belts: This vehicle, when completed, will conform to GSO 96 and GSO 97 if the seat belt assemblies supplied by Ford Motor Company are not removed, replaced nor altered.

GSO 98 – Interior Flammability: Interior components supplied by Ford Motor Company conform to GSO 98 for flammability. Note, however, that it is the responsibility of the final stage manufacturer to ensure that any interior components added or replaced meet the flammability requirements of GSO 98.

GSO 99 – Sound Signaling Devices: This vehicle, when completed, will conform to GSO 99 if the horns supplied by Ford Motor Company are not removed, replaced, altered, nor supplemented.

GSO 135 & GSO 136 – Radiator: This vehicle, when completed, will conform to GSO 135 and GSO 136 if the radiator supplied by Ford Motor Company is not replaced nor altered.

GSO 144, GSO 145 & GSO 146 – Heavy Duty Diesel Emissions, Diesel-Powered Vehicles: This vehicle, when completed, will conform to GSO 144, GSO 145 and GSO 146 provided that the emission control components supplied by Ford Motor Company are not removed, revised, nor modified and that the engine, fuel and exhaust systems are not modified in a manner which may adversely affect emission performance or emission system effectiveness.

GSO 153 – Conformity Certification: In addition to this Incomplete Vehicle Manual, a label has been affixed to the door latch post or door edge of the incomplete vehicle that indicates compliance to all applicable GCC standards at the time of manufacture. Subsequent alteration of the vehicle other than by Ford Motor Company, or damage in transit, may affect the conformity of the incomplete vehicle to those standards. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle and to provide the GCC authorities with a conformity certificate for the completed vehicle two (2) months prior to importation into the GCC countries. In addition, the final stage manufacturer must also provide a certification label on the completed vehicle stating compliance of the completed vehicle to the applicable GCC standards.

(*Continued next page*)

Ford Motor Company Incomplete Vehicle Manual Supplement for Gulf Cooperation Council Markets *(Continued)*

GSO 159 – Motor Vehicle Dimensions & Weights: This incomplete vehicle, as manufactured by Ford Motor Company, conforms to the applicable requirements within GSO 159. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle to GSO 159.

GSO 290 – Instruction Manual: This incomplete vehicle, as manufactured by Ford Motor Company, conforms to GSO 290. Note that it is the responsibility of the final stage manufacturer to both ensure that the Ford Motor Company English and Arabic Owner Guides are kept with the vehicle and to determine compliance to GSO 290 of any supplemental owner guide provided by that manufacturer.

GSO 421 & GSO 422 – Rear View Mirrors: This vehicle, when completed, will conform to GSO 421 and GSO 422 if the interior and exterior rear view mirrors and their mounts as supplied by Ford Motor Company are not removed, relocated, replaced, nor altered, and any modifications or additions made to the incomplete vehicle do not adversely affect the driver's view to the rear in the outside mirrors along both sides of the vehicle. Conformity to GSO 421 and GSO 422 cannot be determined on incomplete vehicles not equipped with exterior rear view mirrors.

GSO 645, GSO 646 & GSO 647 – Tires & Wheels for Trucks: This vehicle, when completed, will conform to GSO 645, GSO 646 and GSO 647 if the tires supplied by Ford Motor Company are not removed, replaced, nor altered. Note, however, that it is the responsibility of the final stage manufacturer to verify that the tire loading capacity is adequate for the final GVW.

GSO 963 – Ambulances: Ford Motor Company recommends the use of the ambulance prep package when completing a vehicle as an ambulance. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle to GSO 963.

GSO 1503 – Head Lamps: This incomplete vehicle, as manufactured by Ford Motor Company, conforms to the applicable requirements within GSO 1503. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle to GSO 1503.

GSO ISO 1585 – Engine Net Power: This vehicle, when completed, will conform to GSO ISO 1585 provided that the emission control components supplied by Ford Motor Company are not removed, revised, nor modified and that the engine, transmission, fuel and exhaust systems are not modified in a manner which may adversely affect engine performance.

GSO 1624 – Noise Emission: This vehicle, when completed, will conform to GSO 1624 if the following items supplied by Ford Motor Company are not removed, replaced, altered nor supplemented: noise shields, engine drive belts, engine PCM, intake manifold, exhaust manifold, engine fans and fan clutches, engine covers, tires, transmission or transmission components, transfer case or transfer case components, muffler, resonator, diffusers, exhaust pipes, catalytic converter, exhaust shields. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle to GSO 1624.

GSO 1677, GSO ISO 3537 & GSO ISO 3538 – Safety Glazing: This vehicle, when completed, will conform to GSO 1677, GSO ISO 3537 and GSO ISO 3538 provided the safety glazing supplied by Ford Motor Company is not removed, replaced, altered nor supplemented. Note, however, that it is the responsibility of the final stage manufacturer to determine the ultimate compliance of the completed vehicle to GSO 1677, GSO ISO 3537 and GSO ISO 3538.

GSO 1780, GSO 1781 & GSO 1782 – Vehicle Identification Number (VIN): This vehicle, when completed, will conform to GSO 1780, GSO 1781 and GSO 1782 with the safety certification label installed.

GSO 2112, GSO 2113 & GSO 2114 – Front, Side and Rear Underrun: It is the responsibility of the final stage manufacturer to determine compliance of the completed vehicle to GSO 2112, GSO 2113 and GSO 2114.

SASO CITC RI 054 & SASO CITC RI 109 – Radio Frequency Devices: This incomplete vehicle, as manufactured by Ford Motor Company, conforms to the applicable requirements if the radio frequency devices supplied by Ford Motor Company (ie: radio, garage door opener, reversing aide, and tire monitoring system) are not removed, replaced, nor altered.

SASO 2857 – Vehicle Tires Rolling Resistance and Wet Grip: This vehicle, when completed, will conform to SASO 2857 if the tires supplied by Ford Motor Company are not removed, replaced, nor altered. Note, however, that it is the responsibility of the final stage manufacturer to verify that the tire loading capacity is adequate for the final GVW.

EMISSION STANDARDS

There are currently no EMC/RFI nor petrol exhaust/evaporative emission standards applicable to GCC countries for vehicles over 3500 kg GVW. Additionally, all petrol-engined vehicles are suitable for operation with unleaded fuel. Diesel emission requirements are addressed in GSO 144, GSO 145 and GSO 146 (above), therefore, the following section of the Incomplete Vehicle Manual does not apply:

- **EMISSION CERTIFICATION INFORMATION -- EVAPORATIVE EMISSIONS**

FORD BODY BUILDERS LAYOUT BOOK

Throughout this manual you will find references to information found in the *Ford Body Builders Layout Book*, which contains additional design recommendations and specifications to assist subsequent stage manufacturers in completing chassis cab and incomplete vehicles. The *Ford Body Builders Layout Books* can be accessed via the web at https://fordbbas.com under "Publications".

FORD SERVICE PUBLICATIONS

Many Ford Service Publications pertain to specific Model Year and vehicle types. Ford Service Publications are available by subscription via the web at www.motorcraft.com. The following publications are a few of many manuals which are available from Helm Incorporated; call: 1-800-782-4356

- Ford Truck Shop Manuals
- Ford Towing Manual
- Ford Electrical & Vacuum Trouble Shooting Manual
- Ford Wiring Diagram

FORD BODY BUILDER ADVISORY SERVICE

The Ford Body Builder Advisory Service may be consulted regarding information contained in this manual via the following methods:

- Call (877) 840-4338
- E-mail via the web at https://fordbbas.com under "Contact Us".

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